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and
DW

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FIELDS SERVED BY DW

The publication in which shipper, carrier, receiver, warehouseman and equipment manufacturer meet on common ground to obtain and exchange ideas and suggestions for more efficient and economical distribution of raw materials and finished products. D and W is a clearing house of information for all who are interested in:

SHIPPING by air, highway, rail and water, of raw materials and finished products of all kinds, from points of origin to points of ultimate destination. D and W insists that efficiency and economy are as imperative in transportation of commodities as in manufacturing and selling.

HANDLING . . . of raw materials and finished products, in bulk, in packages, and in palletized units, for and during production, transportation, storage and distribution. D and W submits that handling costs are a vital factor in determining profits.

WAREHOUSING . of raw materials, finished products and miscellaneous supplies for any or all of the following reasons: as collateral for loans; to anticipate seasonal buying; to obtain lower rates by making bulk rather than l.c.l. shipments; to have spot stocks readily available at important market centers; as an aid in developing new markets. D and W maintains that, for efficient and economical distribution, intelligent and practical warehousing is indispensable.

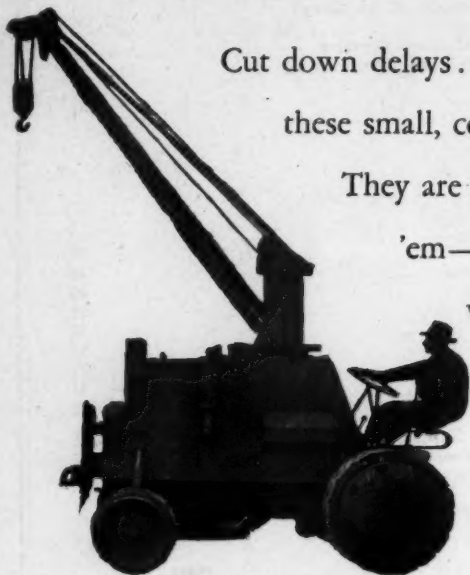
DISTRIBUTION . . of anything anywhere from points of origin and production to points of ultimate use and consumption whether sectional, national or international. D and W takes the position that more efficient and economical distribution is the present major problem of modern business.



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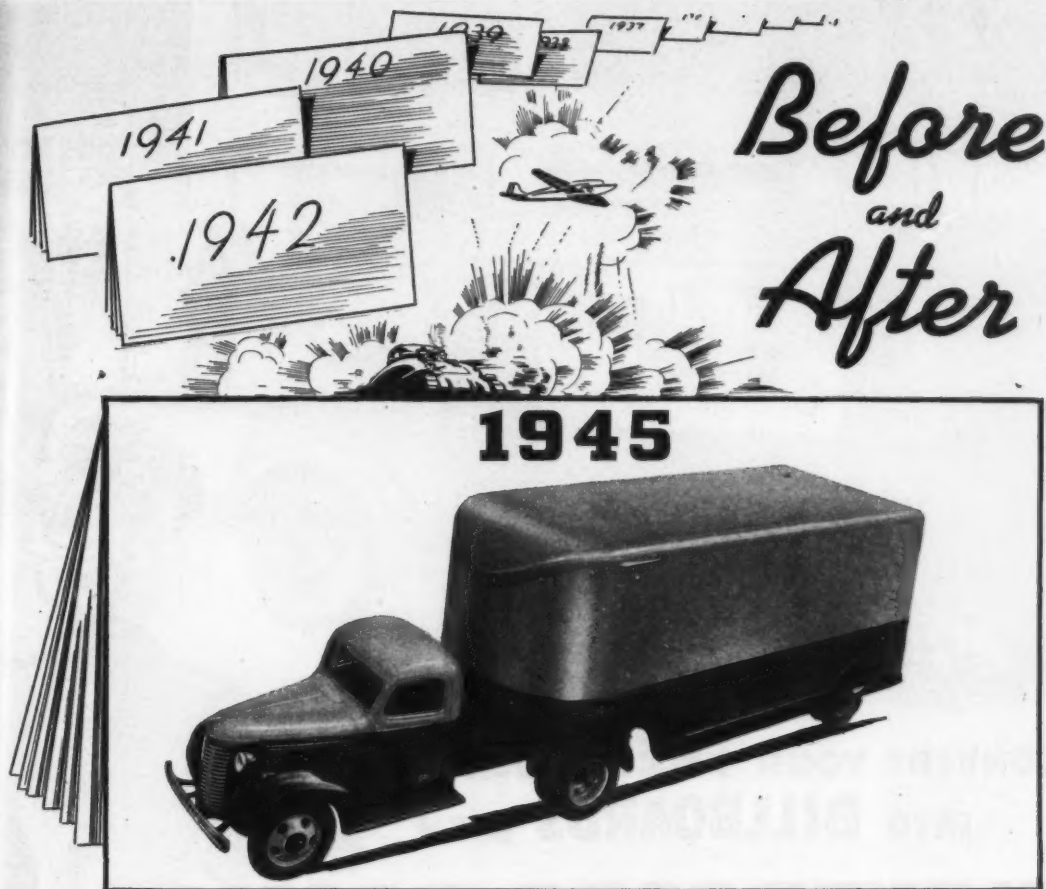


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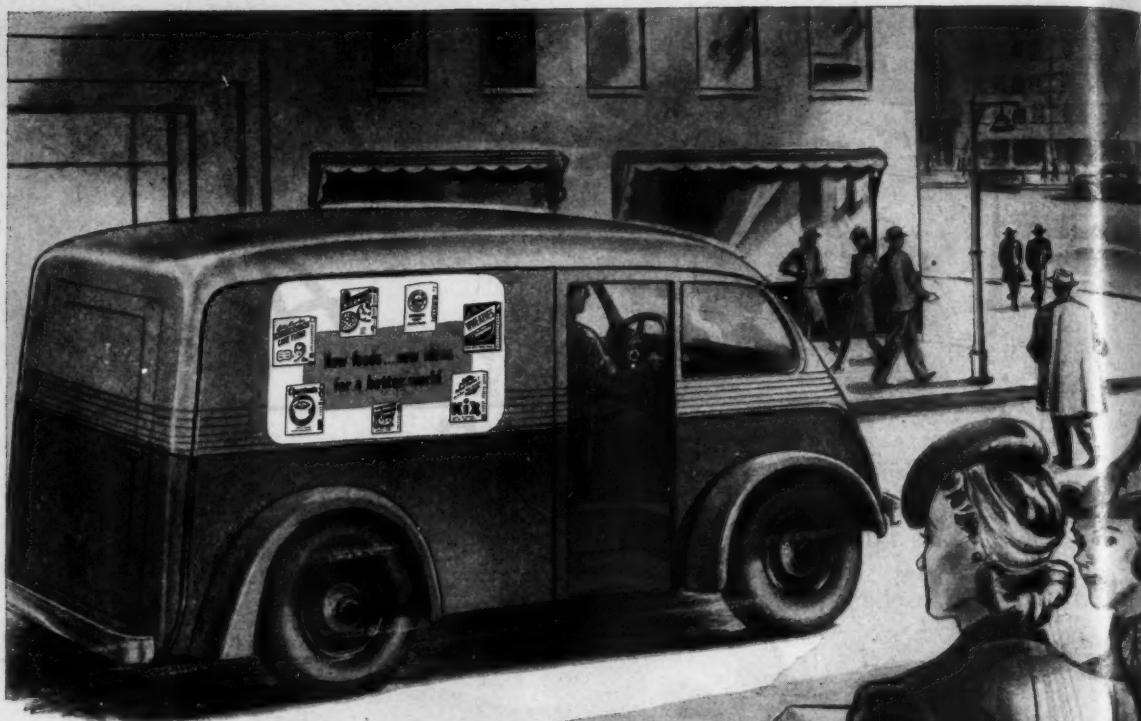
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Its extensive plant and personnel, located in branches and distributive outlets from coast to coast, are dedicated to the task of reducing the needless waste of life and property that fire creates.

These are reasons why, among leaders in all fields of American industry, General's reputation for integrity of product, dependability of performance, and speed and quality of production is well known.

The experience of these leaders, based on use, convinces them that—

if it's **GENERAL** it's dependable.

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CD-700
1.5 Gal.



Floufume
2 1/2 Gal.



Red Star
2 1/2 Gal.



Alaskan
2 1/2 Gal.



Protector
3 Gal.



Neptune
5 Gal.



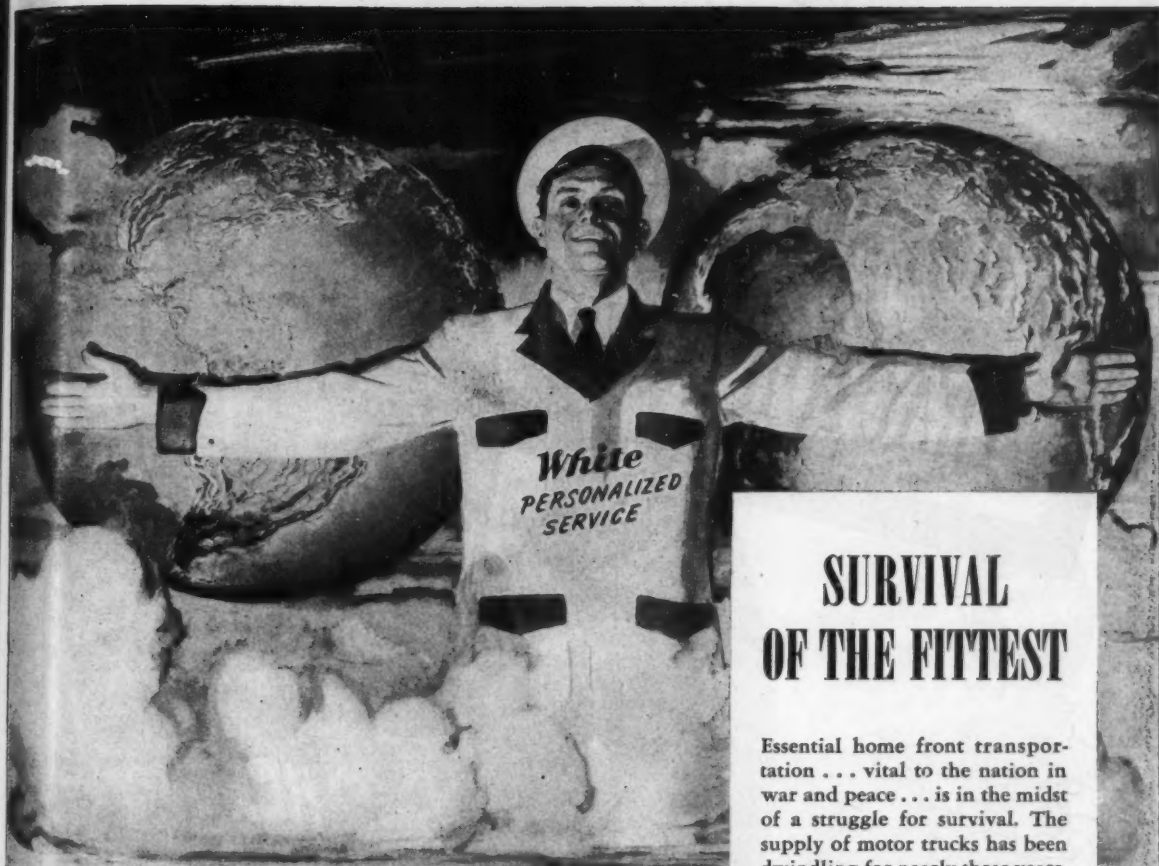
The Wise Men Knelt

Three Wise Men came bearing gifts, the greatest being Faith. They knelt . . . and through their giving received the strength of Courage and the wisdom of Righteousness.

Today, on world-wide battlefields men and women kneel to replenish the courage needed to meet the day, or darkness, to come. In every home the unflickering flame of the candle of Faith is kept burning, the cumulative light more brilliant than the sun.

The prayers of, and for, our fighting men and women are humbly offered that we may have the fortitude and wisdom to attain a righteous Peace, that we may live a life of Peace with our neighbors, that for our children the priceless American heritage of Liberty and Self-government shall not be lost.

The Manhattan STORAGE & WAREHOUSE CO.
52nd STREET and 7th AVENUE • N. Y. C. • 80th STREET and 3rd AVENUE



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THE WHITE MOTOR COMPANY

Cleveland, Ohio, U. S. A.

A limited number of new Super Power Whites is now in production for essential services. Your White representative will be glad to help you make application.



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D and W, December, 1944—9

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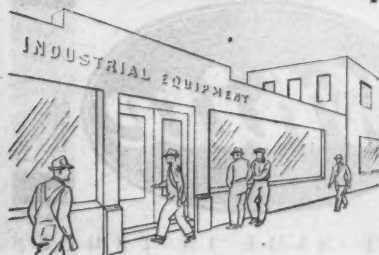


IN the sober years ahead, the accent again will be on economy . . . and the key to economy in tractor power is endurance. It is something that does not show up in a day of demonstration nor in a table of specifications. Endurance means sustained performance and continued economy of fuel and oil. It means low cost of maintenance. It means long tractor life and low annual investment charge.

Endurance in Case industrial tractors comes not from novel features but from a policy of making every part a bit better than might seem necessary. It includes choice of quality materials, ample dimensions and liberal allowance for load stresses. In particular it means

exceptional care in design to keep out destructive dirt and to provide effective lubrication. Case endurance comes from tractor-building experience that began in 1892.

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CASE



In Business to Serve You • Your Case industrial distributor makes a business of supplying and servicing the kind of tractor power and allied equipment that fits the needs of your business and of your location. Backed by the records, experience and engineering talent of the Case Industrial Division he is qualified to give competent counsel on the choice, care and operation of industrial machinery.

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D and W, December, 1944—11



LIFT

YOUR PROFIT LINE

WITH THE

FRUEHAUF ELEVATING ENDGATE

One Man slides or rolls the load onto Elevating Endgate.

1

MAN DOES THE WORK OF

3



Elevating Endgate raises driver and load from ground to truck-bed level in about 10 seconds.



Elevating Endgate stops automatically at bed level. Driver shifts load onto truck.



Secure all the facts from your nearest Fruehauf Factory Branch — or write for a free copy of the new, 12-page, fully-illustrated catalog, "Fruehauf Elevating Endgate."

Three men lift load to bed of ordinary truck.



THE FRUEHAUF ELEVATING ENDGATE is a combination Elevator and Endgate. It uses **ENGINE-POWER** instead of "BRAWN-POWER" to load and unload trucks and Trailers. It saves time . . . eliminates extra manpower . . . lessens the possibility of damage to goods, or accidents to men. All of which adds up to substantial savings — *increased truck or Trailer earnings.*

The unit is ideally suited to handle heavy materials — it will lift up to **1 ton** — either fragile merchandise, or goods in large volume. In many cases one man can readily load and unload objects ordinarily requiring several men — and do it in a fraction of the time formerly required.

WHAT IT IS—Briefly, the Fruehauf Elevating Endgate is a steel tailgate which acts as an elevator. It is hydraulically driven by power from the truck engine — conveniently controlled by two or more levers at rear of truck or Trailer. Heavy loads may be smoothly raised or lowered between ground and truck-bed level by the mere shift of a lever.

PROVEN IN ACTION—For several years now, the Fruehauf Elevating Endgate has been proving its ability to lift profit lines for West Coast truckers. Now it is being made available to users of trucks and Trailers on a nation-wide basis.

FRUEHAUF TRAILER COMPANY • DETROIT 32
World's Largest Builders of Truck-Trailers Service in Principal Cities

FRUEHAUF TRAILERS



"Engineered
Transportation"

Traffic Managers and Materials Handling

IS materials handling a function of industrial traffic management or is the mechanical handling of materials a function of the engineering department?

This is a question that industrial traffic managers as well as engineers may find advisable to re-examine in the light of the ever-growing mechanization of handling methods both in production and distribution. We suggest, also, that management might find it advantageous to look into the matter. Methods and practices are changing.

At a recent regional meeting of mechanical engineers, which we attended, the superintendent of materials handling of a large industrial corporation explained the nature of his job. He controls and supervises all freight movements to, within and from his firm. He directs the movement of raw materials from points of origin to his company's branches, the intra-plant movements of all prefabricated and finished products and supplies, and the packing, routing and shipping of all orders. In short, his job is that of traffic manager and materials handling engineer combined, with emphasis on the latter.

While outstanding, we understand this is not an isolated case. Some people think there is a trend toward consolidation of the functions of the traffic and engineering departments. We rather doubt it. We do not believe it will work out in normal practice. It is neither sound nor sensible.

We are strongly convinced that coordination between the traffic and engineering departments will produce more desirable results than by burdening one with the over-all job. Neither can fulfill the functions of the other entirely.

Traffic managers and mechanical engineers are specialists in their respective fields. Their points of view, their training, experience and problems are different. As a rule, a mechanical engineer is a specialist either in the design or construction of machinery, or in the application of energy by mechanical means. The basic function of industrial traffic management is to direct the movement of raw materials and

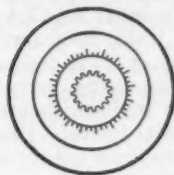
finished products of all kinds from points of origin to points of use or consumption at the lowest cost consistent with efficiency.

The difference becomes clearer, perhaps, by enumerating a few of the major operations involved in traffic direction, as Mr. H. G. Ellwell, well known traffic consultant, did in our October issue. Among other things, these include: maintenance of tariff files; examining rate and route quotations; classification studies; analyzing tariffs and comparing rates; checking transportation bills; preparing and filing claims; handling rate cases before regulatory bodies; studying warehouse connections, market extensions and economic matters related to traffic cost control.

We doubt whether any engineer, no matter how competent, could do such work without special training and several years of practical traffic experience. Similarly, we question whether there are any traffic managers, no matter how varied their experience, capable of setting up a materials handling system as efficiently and economically as a materials handling engineer.

Modern industry requires specialization. Much of our economy is based upon it. Specialization requires coordination. The consolid-

Editorials



'... around every circle another can be drawn ... every end is a beginning ...'

ation of two highly specialized functions defeats the purpose of specialization, which, obviously, is to produce maximum efficiency and economy of operations.

In this connection, some of our readers may recall an article that *D and W* published in September, 1939, by Mr. Matthew W. Potts, our materials handling editor, who, incidentally, is a member of the American Society of Mechanical Engineers. The title of the article was "Materials Handling, a Function of Traffic Management." The statements made five years ago by Mr. Potts are as pertinent and as valid today as when they were written. For example:

"The traffic department," Mr. Potts wrote, "should not burden itself with engineering details involved in the construction of equipment, buildings, and the layout of machinery, but should act more in
(Continued on next page)



Unto All Men ...

UNTO all men, we extend the cordial greetings and felicitations of the season, and, in particular, to all of our readers we take pleasure in expressing our sincere and hearty thanks for the generous cooperation we have received during the year now drawing to a close.

In the year ahead, we wish you

all the blessing of abundant health, and the fulfillment of your hopes.

We pray, also, that the maimed and the bereaved may be healed and comforted, and that during the coming year we may see the beginning of a just and lasting peace established upon the broad foundations of a deeper faith in kindness and good will among men.

an advisory capacity with the idea of bringing about the proper coordination of all departments so as to effect the most simple and, at the same time, comprehensive system for handling materials."

He also pointed out that there is much that traffic managers can do, particularly in small organizations, without trespassing upon the domain of the engineering profession. It would seem logical, in establishments where there are no engineering departments, for materials handling to be under the direction of the traffic manager, provided he is competent to undertake such supervision. If he is not, there are a number of able engineers and materials handling consultants available.

But it is so manifestly to the traffic manager's advantage to know the rudiments of materials handling that it seems reasonable to assume a substantial number have a practical working knowledge of the sub-

ject. As Mr. Potts said in the article referred to above:

"The tendency on the part of industrial plant executives to reduce their handling costs and, at the same time, speed up the transportation of materials, affords a ready opportunity for progressive traffic managers who can visualize problems in their entirety . . . the traffic manager who is familiar with the latest methods of handling materials, who is willing to investigate them and recommend improved methods, is able to show management ways to save considerable money."

That was true five years ago, it is true today, and it will still be true after the war.

It is the opinion of some authorities that the Army and Navy, during the past few years, have improved materials handling methods more than industry did during the preceding quarter of a century.

When the officers and enlisted men responsible for these improvements return to civilian life they will expect to make use of their knowledge in industry. Management, it seems to us, would be wise to prepare for that eventuality now.

As a suggestion, we submit that all traffic departments should have a regular materials handling section or division. If practicable, such a section should be organized with the advice and assistance of the engineering department. Whether there is an engineering department or not, when it becomes possible we recommend that the materials handling section of the traffic department be placed in charge of an experienced and qualified ex-service man.

If management undertakes something of this kind, we venture to believe, industry is likely to simplify many of its postwar handling problems.

NIT League Urges Coordination of Carriers, Reelects Keeler, Acts on Many Reports

RESOLUTIONS urging coordination of common carriers; withdrawal of the Government's anti-trust suit against the railroads; establishment of standard transportation accounting and cost finding, particularly among motor carriers; condemnation of lax handling of loss and damage claims by motor carriers, plus the reelection of incumbent officers and the selection of Chicago for its next convention, featured the 37th annual meeting of the National Industrial Traffic League, Nov. 16 and 17, at the Hotel Pennsylvania, New York. John B. Keeler, president, presided. Members and guests in attendance totaled about 500.

There were no speeches. The business of the meeting consisted in acting upon reports submitted by standing or special committees. Noteworthy among these were the following:

Control of One Form of Carrier by Another: The League endorsed the principle "that it should be permissive by law for operators of one form of transportation to operate, through ownership or contractual arrangements, other forms for performing of a complete transportation service," if in the public interest and so approved by appropriate regulatory authorities; and, furthermore, "that operators of different forms of transportation should be encouraged under proper safeguards in the public interest to adopt any advancements in means of transport which will tend to

make more complete or economical their service to the public."

Regulation of Air Transport: Endorsed exclusive federal jurisdiction over safety regulations; but urged state regulation of purely intra-state commerce.

Air Express: Favored "over-all re-

sponsibility and security to users of air express service and continued coordination of transportation facilities such as now provided by the Air Express Division of the Railway Express Agency in planning for the future of air express service of country-wide coverage."

Before adoption of this resolution it was entered upon the minutes as the sense of the meeting that air cargo was to be understood as included within the meaning of the resolution, and that the use of the words "Railway Express Agency" were not intended as meaning that agency exclusively.

Anti-Trust Suit: The Department of Justice was asked to withdraw the civil suit filed in Lincoln, Neb., against the major railroad interests accused of violations of the Sherman Anti-Trust Act, on the grounds that "the broad prayers (if granted) would tend to destroy beneficial practice and procedures of long standing, contrary to the public practice and to the disadvantage of shippers of the country."

Loss and Damage Claims: Further meetings with the claim committee of the American Trucking Assns. were authorized, and an offer of the League's assistance was ordered tendered to the ICC in its investigation of the practices of motor common carriers in the matter of handling loss and damage claims.

(Continued on page 105)



REELECTED . . . J. B. Keeler, president, National Industrial Traffic League

Cost Factors in Distribution

In many manufacturing establishments it is difficult to ascertain the truth about transportation cost. It will continue to be difficult until executives comprehend the need for setting up a single schedule embracing each part of the cost of transportation. How these costs may be allocated is not the issue. They should be segregated to disclose the actual conditions.

By HENRY G. ELWELL
Traffic Consultant

○ ○ ○

generally of extreme importance, that the chief executive of any industrial establishment be furnished with adequate information regarding costs. However, it is not desirable for his department heads to swamp him with details. What he primarily needs are the bare vital facts; the details to support the facts should be at hand,

but kept in the background unless wanted for clarification.

These details of cost, like the "six-shooter" of the old-time Western sheriff, seldom may be used in a discussion with the chief executive, but, like that gun, when required, they probably will be needed in a hurry.

On the other hand, while the "bare

COMPETITION in industry during the postwar period will be far more complicated than ever before in the history of America. Careful planning will have to be carried on by every unit of the industrial world looking to the reduction of all types of cost, not alone in production, sales, etc., but also in one of the most important of all units, namely, transportation.

Unfortunately, in many manufacturing establishments it is difficult to ascertain the truth concerning cost of transportation. It will continue to be difficult until executives comprehend the need for setting up a single schedule embracing each part of cost of transportation, instead of tacking the parts "piece meal" onto various accounts, thereby "smoke-screening" the significance of transportation cost. How these costs eventually may be allocated is not the issue. What we wish to emphasize is that they should be segregated to disclose the actual conditions.

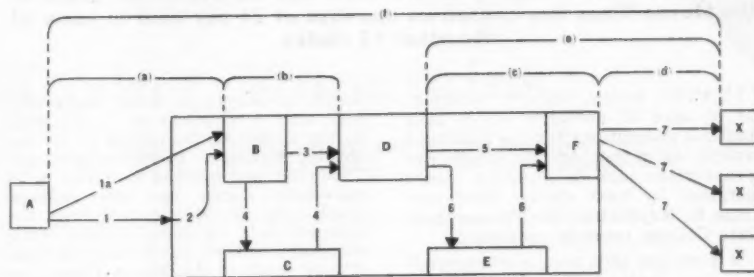
Cost of transportation can and must be lowered. But this will not be fully accomplished in cases where management cannot discern all of the facts. And where some of the particulars are hidden, how can management have all of the evidence?

Executives Vague on Traffic

When one sits down with industrial executives it frequently develops that their ideas of traffic work are vague. They seem to think a traffic department's scope covers only quotation of freight rates, routing, checking of freight bills and similar routine operations. Of course, these are important basic operations of traffic department effort, but there are many more, all directed toward the control of transportation cost.

In the final analysis, the major function of a traffic department is to direct the movement of materials and products at the lowest cost consistent with efficiency. Why, then, is management so indifferent to this salient phase of business?

Is this situation the fault of the traffic managers, as a group, or that of the executives? Should traffic managers after gleaning basic facts insist on presenting them to the executives, whether they request them or not, or should the executives seek the information?



- A Source of Raw Material
- B Receiving Department
- C Stock Room or Warehouse for Raw Material
- D Factory
- E Stock Room or Warehouse for Finished Goods
- F Shipping Department
- X Customer

NOTE: In actual practice C and E may be contiguous buildings or they may be separate floors of the one building or separate sections of a floor.

Transportation Costs

Take the subject of the over-all cost of transportation. What thought have traffic managers given to it? What consideration has management given to it?

To properly explore the possibilities of reducing cost of transportation there is required the "setting up of a single schedule embracing each part." If traffic managers have not given attention to this need, then how can management be expected to recognize the place of the traffic department in the business structure?

But, of even greater interest is this: How can management know the facts as to cost of transportation if traffic managers fail to force the issue for the benefit of all concerned?

It is a matter of importance, and

1	Raw Material from Source— By Railroad to property line of Manufacturer	(a)	Freight Inwards.	(f) TRANSPORTATION
2	Via private siding (if any) to Receiving Dept. entrance.			
1a	By Automobile or other means to Receiving Dept. entrance.			
3	Raw Material from Receiving Dept. entrance— Directly to Factory entrance	(b)	Materials Handling Inwards.	(g) DISTRIBUTION
4	Via Stock Room or Warehouse for Raw Material to Factory entrance.			
5	Finished Goods from Factory exit— Directly to Shipping Dept. exit.	(c)	Materials Handling Outwards.	
6	Via Stock Room or Warehouse for Finished Goods to Shipping Dept. exit.			(h) DISTRIBUTION
7	Finished Goods from Shipping Dept. exit to Customers.	(d)	Freight Outwards.	

(a) Freight Inwards and (b) Materials Handling Inwards are parts of the cost of Production.

(c) Distribution is part of the cost of Selling.

vital facts" must be exactly that and nothing else, they are not that unless they include all the adequate information.

For instance, assume a general sales manager reported that the sales for a given month amounted to \$100,000. Here he furnishes one vital fact. But if his company sells, let us say, three lines of products, his report would not contain all the vital facts. In such a case, he would have to add that the total of \$100,000 was made up of \$50,000 for one, \$40,000 for another, and \$10,000 for the third.

Likewise, the advertising manager's report may give the total cost of advertising for a given month as \$10,000. Here, to provide the vital facts, he would show the total as being made up of so much for newspaper space, an additional amount for radio time,

and probably an amount for magazine space.

What does the traffic manager report? Think of your own business concern. What information does your traffic manager provide for your chief executive which will inform him as to transportation cost?

It has been stated by the U. S. Department of Commerce: "Transportation costs in the average business accounts for as much as 25 per cent of the total expenditures; in some, for a great deal more than this." Unfortunately, hardly an executive, and only a comparatively few traffic managers, ever gave heed to this warning which was based on exhaustive studies made throughout the United States.

So, Mr. Traffic Manager, do you ad-
(Continued on page 74)

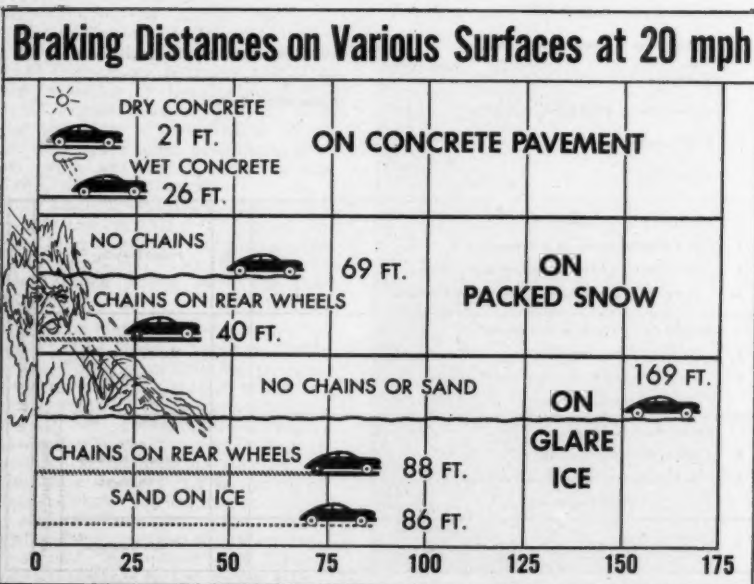
Avoid Winter Hazards!

Skidding and reduced visibility in 36 snow-belt states ran the mileage death rate up 53 per cent over the summer rate in those states last year, while unusually severe snow and ice conditions south of the Mason-Dixon line caused an increase of 24 per cent in some of the other 12 states.

UNLESS motor vehicle operators in over 30 northern states take practical precautions for the increased hazards of winter driving, there can be a serious lack of highway transportation by next spring, Professor Amos E. Neyhart of the Pennsylvania State College recently predicted.

"I have just seen results of research into last winter's accidents to essential vehicles, made by Professor

Ralph A. Moyer of Iowa State College, who is chairman of the National Safety Council's Committee on Winter Driving Hazards," Prof. Neyhart said. "Skidding and reduced visibility in 36 snow-belt states ran the mileage death rate up 53 per cent over the summer rate in those states, while unusually severe snow and ice conditions south of the Mason-Dixon line caused an increase of 24 per cent in some of the other 12 States.



Police and war production authorities are concerned with minimizing traffic tie-ups and destruction of vital, irreplaceable vehicles this wartime winter. Above National Safety Council chart shows average braking distances on various road conditions. Actual stopping distances are 22 ft. more, however, because it takes average driver $\frac{1}{4}$ of a second to react and apply brakes after seeing reason to stop. This means 22 ft. at 20 m. p. h.

"All drivers of vehicles essential to wartime economy should immediately prepare and repair winter safety equipment such as windshield defrosters, anti-skid chains, heaters, and windshield wipers. Equipment which cannot be replaced can be repaired, if it is done now."

Pointing out that inadequate traction and reduced visibility are the main causes of increased traffic death rate and winter smashups, Prof. Neyhart said that many vehicle owners maintain good condition of standard equipment, but often fail to prepare for added hazards of the snow and ice season until too late.

Prof. Neyhart, administrative head of the Penn State Institute of Public Safety, is also road training consultant for the American Automobile Assn. and counselor of the Commercial Vehicle Section of the National Safety Council.

"This must not be a winter of blind driving or a skid to the junk pile," he warned. "Baby your buggy, be it car or truck, for motor vehicles are vital to victory and civilian economy and new ones won't be available 'til later than you think."

The following practices, based on National Safety Council research, are recommended "winter rules" for all who must drive this winter whether in passenger car or truck:

1. If you must drive this winter, fill your car to comfortable capacity and go prepared to get through, regardless of snow or ice.

2. Reduce your speed to conform to the conditions of the road, and take no chances.

3. Use tire chains on ice and snow to reduce braking distances as much as 40 or 50 per cent. Chains also provide necessary "go" traction, and uniformity in performance under severe winter road conditions.

4. Follow other vehicles at a safe distance. It takes from 3 to 11 times as long to stop without anti-skid chains when pavements are snowy or icy.

5. Apply brakes on slippery pavements lightly and with a pumping action. If you jam on the brakes, they may lock and throw your car into a dangerous skid. Try to avoid need for making a quick stop in front of another vehicle. A rear-end collision may cripple your car for the duration.

6. Keep windshield and windows clear of snow and ice outside, and fog and frost inside. Remember, you must see danger to avoid it.

7. Keep posted on winter road and weather conditions. A safe driver is always aware of his limitations and equipped to get through safely and on time. Be a good defensive driver.

There is every indication that the safety and conservation efforts should be accentuated now for all of the reasons which have existed in the war period. Further, a let-down now, in addition to being likely to be disastrous, will make more difficult the period of readjustment which lies ahead, nobody knows exactly how long.

If the wartime experiences have taught anything, it is that motor carriers can do better with less under more adverse circumstances than anyone thought possible, including the carriers themselves.

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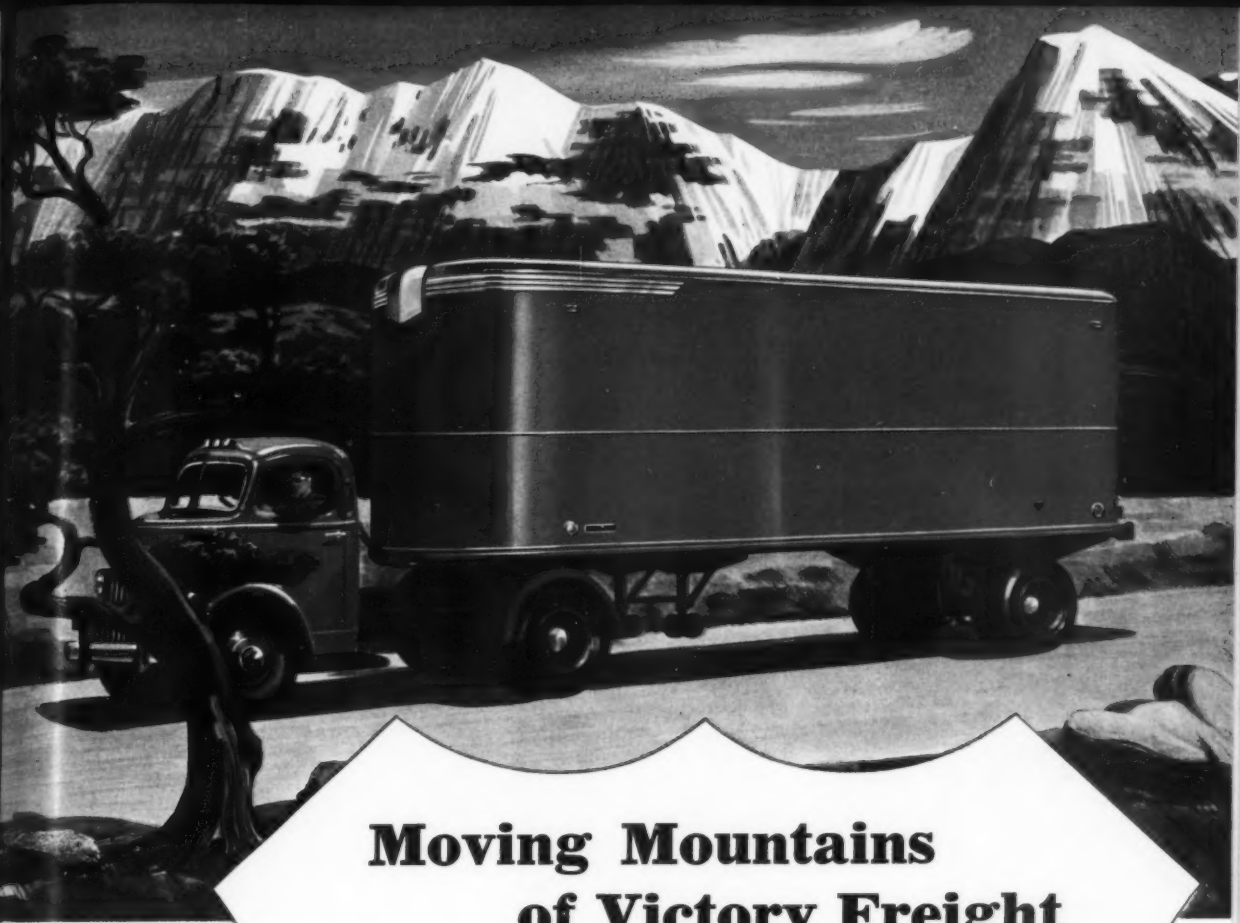
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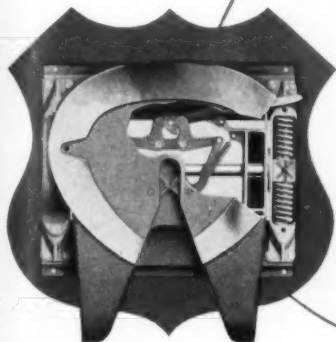
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Moving Mountains of Victory Freight

ON EVERY U. S.
HIGHWAY



America's heroic accomplishments in this war have startled the world. "Moving mountains" has become an everyday fact—and Highway "Clipper" and "Freightmaster" Trailers have done their full share in the all-important job of moving mountains of Victory freight.

Highway commercial trailers are now again in production, with many improvements grown out of Highway's wartime experience. Not the least of these is the new Duolock Lower Fifth Wheel, full rocking, spring cushioned, with safe dual-cam locking, the finest yet developed. Because this mounts on the truck, it can be used with any semi-trailer equipped with a standard S.A.E. kingpin. This improved fifth wheel is standard with all new "Clippers" and "Freightmasters".

Full details about the new improved Highway "Clippers" and "Freightmasters" are shown and described in two new color booklets just off the press. Write for your copies now, and let your next trailers be Highways!

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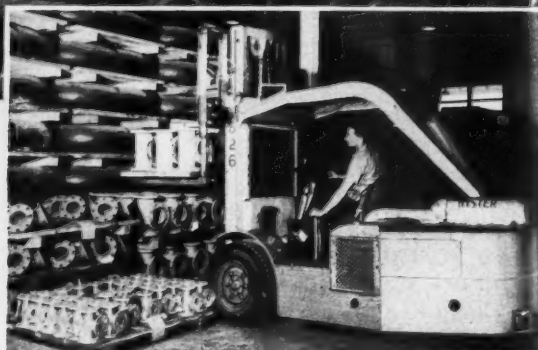
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PUT HYSTERS TO WORK



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of materials handled

They're ready to take over your materials handling work, and keep things moving on schedule. The HYSTER Karry Crane and HYSTER Fork Lift Truck bring all-around efficiency to any organization having materials to handle. They do the job better, save time and labor, and lower costs per ton of materials handled.

HYSTER FORK LIFT TRUCKS: A line of advanced design. For lifting, carrying, unloading or high piling. Pneumatic tires; travel anywhere. Trun-

nion steering; turn in own length. Gasoline powered; standard controls. Ideal for narrow aisles. Load capacities 2000 to 15,000 lbs.

HYSTER KARRY CRANE: A mobile, general utility crane. 10,000 lb., load capacity. Five-way adjustable boom. Six large pneumatic tires. Traction wheels forward; double trunnion rear for steering. Highly maneuverable; turns in own length. Forty H.P. gasoline engine. Four speeds forward; four in reverse. Standard controls. Write for catalogs.



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A stretch of the pioneer highway already paved

The Inter-American Highway

The construction of a military highway from the southern Mexican frontier to Balboa basin in the Panama Canal Zone, a distance of 2,561 kilometers, or roughly about 1,600 miles, which has been pushed forward in the face of almost insuperable difficulties, is one of the epic stories of this war.

PEARL HARBOR changed the face of things as they were. The United States government suddenly realized that at Panama in the Canal Zone and its surroundings it had not only a huge investment in money but a profoundly vital interest.

Simultaneously, all the Americas realized their geographical unity and solidarity. The western continent—the American continent—was isolated by war. Exports to Europe vanished; exports even to the northern half of the Continent dwindled because water transport alone had been developed in the past.

Highway to Panama

Steps were at once taken to open a through overland route between the United States and Panama. Funds were made available, surveys of the incomplete sections were started and plans made to construct a pioneer road across all the gaps lacking all-weather surfaces.

These gaps aggregated 1060 kilometers and occurred in every country south of Guatemala. The surveys required stretched to more than 790 km.

The amount of heavy construction and the unusual number of bridges led at once to an adjustment which would provide the most convenient and practicable rail and highway combination from the United States to Panama. This arrangement contemplated the use of the standard gauge railroads in Mexico to the southern frontier at Tapachula or Suchiate and a pioneer road from either or both



By EDWIN W. JAMES

*Chief, Inter-American Regional Office
Public Roads Administration*

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Mr. James is chief, Inter-American Regional Office of the United States Public Roads Administration. He is one of the great roadbuilders the United States has produced.

He spends as much time in the field as in Washington. Bridge building operations of the Public Road Administration in Central America are under his direction. So also are the engineering reconnaissance surveys being made to determine the route from the Panama Canal south to Colombia.

He is author of many important highway engineering studies and articles, including "Highway Construction Administration and Finance."

of those points to Panama. Such a combination would make through traffic possible with a single transfer from rail to truck.

Road Specifications

The pioneer road project was authorized in June, 1942, by two directives from military authorities, one providing for immediate surveys and the other for construction of a surfaced road on the location of the proposed Inter-American Highway, over all sections which did not at the time have all-weather surfaces.

The pioneer road surface was to have a minimum width of 10 ft., and a thickness of 8 in. of compacted gravel or crushed stone without artificial binder. A maximum controlling grade was set at 10 per cent with a tolerance up to 12 per cent for short distances. No maximum curvature was set as it was expected that the construction would follow the alignment standards of the Inter-American Highway. Advantage was to be taken of the fact that where alignment is fixed a variety of profiles can be laid. With the low standards of the pioneer road and the higher standards of the ultimate Inter-American Highway this process, if carried through, would assure that only a small fraction of the work on the pioneer road would be discarded in final construction.

Bridges and Culverts

An adjustment had to be made also with respect to bridges and culverts.

The total number of bridges over 20 ft. in length remaining to be built between the southern Mexican frontier and the Panama Canal Zone was 97, and the very large footage of box and pipe culverts needed could be determined only after completion of surveys. It was obviously impossible with restrictions that affected steel to fabricate all the needed bridges, or provide reinforcement for so large an amount of concrete as would be required for culverts.

It was stipulated therefore that certain hazardous bridges, if possible, should be completed according to final standards adopted for the Inter-American Highway and that other bridges should be made temporary structures, of wood, steel or masonry, built somewhat down stream and off line, if possible. Culverts were treated the same way. Certain ones that could be built exactly in line and at grade of finally anticipated profile could be made permanent, others should be temporary. It was expected that even some log culverts might be built in the temporary class.

Nine Contracts Let

Construction was handled jointly by the Public Roads Administration and the U. S. Engineer Corps and because of the conditions existing it was decided to do the entire job so far as possible by contract. The Engineer Corps was responsible for the pioneer road work and Public Roads Administration for the standard work on roads, bridges and culverts regardless of whether the drainage structures were on pioneer or standard sections of the road. In all, nine contracts were let for roads and bridges covering a total of 1405 kilometers of highway and some 18 bridges.

Three of the Republics having highway organizations partly or wholly equipped took contracts to construct the sections of pioneer road included within their limits. Guatemala undertook to reconstruct an existing dirt wagon road from Malacatan via Ayutla, Retalhuleu, to Escuintla. El Salvador contracted to reconstruct and extend a road from San Miguel via Santa Rosa to the Goascoran river, and Nicaragua agreed to build a new road from the vicinity of Jinotepe via Nandaime, Rivas and La Virgen to the Costa Rica frontier. It was necessary to provide Guatemala and El Salvador with some additional equip-



Road construction in Costa Rica.

ment to that available to the highway department. Such equipment was furnished on a rental basis.

Private contracts were made with the Foundation Co., New York, Martin Wunderlich Co., Jefferson City, Mo., Swinnerton, McClure and Vinnell, San Francisco, and with Ralph E. Mills Co., Frankfort, Ky., for road construction; and with the Frederick Snare Corp. for bridge substructures and steel erection. Bridge steel was fabricated by contract by the United States Steel Export Co.

Honduras-Costa Rica Links

The Swinnerton contract covers the section of pioneer road in Honduras from the Goascoran River at the Salvador border to El Espino on the Nicaragua line, via Nacaome, Choluteca and San Marcos, following throughout the location proposed for the final standard construction on the Inter-American Highway. The total length in Honduras is 164 km. In addition, the Swinnerton associates have the northern section in Nicaragua from the Honduras line via Somoto, Condega and Esteli, to Sebaco, where present standard construction is picked up and continues to Jinotepe. The Foundation Co. undertook to construct the section in northwestern Costa Rica from the Nicaragua line, practically at the shore of Lake Nicaragua to Naranjo, via La Cruz, Liberia, Canas and San Ramon. Difficulties, later referred to, in securing equipment and supplies led to the termination of the contract with the Foundation Co. and at this

time the work is being carried on by force account.

Mountain Terrain

The Ralph E. Mills Co. has a very difficult section in Costa Rica from Cartago to San Isidro del General, about 94 km. long, that crosses the continental divide at an elevation of 10,931 ft. in extremely rough terrain. Wunderlich continues the work in Southern Costa Rica down El General valley via Buenos Aires and Paso Real to the Panama frontier at the crest of the Santa Clara range, thence across the Chiriqui Plateau, and down the mountain to Concepcion and David at which latter place terminates the construction of the Central Highway in Panama from the Canal Zone, 493 km. to the east.

The Frederick Snare Corp. was awarded a contract to construct six bridges: One at the Goascoran river, on the Honduras-El Salvador line; two in Honduras at the Cuacirope and the Rio Grande near Nacaome; one at the Ochomogo north of Rivas, Nicaragua; and one each at El General and Brus Rivers in southern Costa Rica. This contract has been augmented by additional bridges as steel has been made available. Three additional structures in Nicaragua at the Rio Grande, Aguacatista and Calabazas, for which substructures are already complete were first added and later nine structures in Costa Rica were included. These latter with one exception lie in El General valley between the General and Brus bridges originally provided for.

Organization Difficulties

As should be expected, under the circumstances coincident with the development of this construction program, the difficulties of organization have been exceptional. Although the project was not undertaken solely as a war measure, because the cooperative construction and the greater part of the necessary funds were provided before the forced entrance of the United States into the war, nevertheless, the addition of the pioneer sections and the expedited program were obviously incident to defense activities from the point of view of transportation insurance.

This original plan called for the completion of all surveys, the letting of all contracts, the assembling of all

(Continued on page 82)

LEFT: Road construction in Central America. RIGHT: This modernized ox cart is at work on the Tipibaca-Maderas section of the Inter-American Highway in Nicaragua. Most of the highway is being built with modern highway construction equipment, but considerable hand labor is used also, as well as such ancient equipment as this cart.

All photos courtesy Public Roads Administration



The Transportation Link In the Chain of Distribution

Transportation, broadly considered, includes both the actual movement of goods from point of origin to point of destination, as well as all related handling. Those who think of transportation costs only in terms of the span from shipping platform to consignee's platform are not covering all the ground. The real cost must be measured from the time goods leave the production line until they are in the hands of the consumer.

By GEORGE H. SCRAGG

Director,
Advertising and Sales Promotion,
The White Motor Co.

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ping, and all the attendant handling operations. Each of these media has its natural place of service, although the picture is always changing. This is evident in the growth of the airlines and the pipe lines which today are highly important in our distribution system. In some respects, of

course, these carriers are competitive to other forms of transportation. What of it? In the final analysis, the carriers which can serve public needs best will be chosen. That is why we have made such progress under the American system of free competition. In order to gain a place in the sun, products or services must demonstrate their value.

G. H. S.



Maj. Scragg is well known in the automotive, aviation and advertising fields. He was a flier and aircraft designer before the First World War, and during the war he became chief technical officer, Night Bombardment Section, A. E. F.

He is a major in the Civil Air Patrol and public relations officer of the Ohio Wing. He is a trustee of the Early Birds, chairman of the Aviation Division, Cleveland Engineering Society, and member of the Quiet Birdmen, Wings Club of New York, Society of Automotive Engineers, Cleveland Advertising Club and other organizations.

Throughout most of his business career he has been concerned with distribution problems. With his background and knowledge of the subject, we believe he has some very pertinent and practical suggestions to offer industry.—The Editor.

OVER the past few years, more and more attention has been given to distribution problems. Now more than ever it is necessary to consider the needs and the opportunities in this field. Distribution, not production, is our big, number one postwar problem.

Despite the growing awareness of the importance of distribution both in our national and international economy, we find that transportation, a major factor in distribution, is virtually ignored in many of the discussions. This is particularly true at various marketing conferences where the topic should be a natural one. For example, no consideration was given to transportation at the recent annual Boston Conference on Distribution, nor at the Distribution Conference sponsored by the Chamber of Commerce of the United States, held in October at New York. None of the links in the chain of distribution can be neglected, if distribution is to be made more efficient and economical, least of all the link of transportation.

It is amazing that such groups did not include transportation on their programs, and it is surprising also that many business publications fail to give it the space it deserves. A notable exception to this is *DandW*, which has always been cognizant of the complete circle of distribution from producer to consumer, and has consistently covered all phases of the actual physical handling of goods. *DandW's* understanding of the overall distribution problem was shown very clearly in its editorial, "Basic Needs for Better Distribution," published in its August, 1944 issue. This might well be considered as a guide for any intensive study of the subject.

Transportation and Handling

Transportation, of course, without question is a major factor in distribution. Transportation, as I see it, includes both the actual movement of goods from point of origin to point of destination, as well as all related handling. Those who think of transportation costs only in terms of the span from shipping platform to consignee's platform are not covering all the ground. The real cost must be measured from the time the goods leave the production line to the time they are used by the consumer. Every handling which helps to bridge that gap, logically, is a part of the transportation picture.

In covering all phases of transportation, we must think of the belt lines and overhead carrier systems used to convey goods after they are completed, the industrial trucks and tractors with their various mechanical lifting and hauling devices, the hand-propelled trucks and wheelbarrows, the cranes and hoists used to load and unload goods, in short, all the materials handling equipment in the movement of goods from point of origin to final destination. Aside from the modern equipment used to expedite handling, we should consider also ways and means to eliminate handling wherever possible.

To-day, from the standpoint of the extensive movement of goods, we must consider the railroads, the truck lines, airlines, pipe lines, inland waterways, coastwise shipping, trans-ocean ship-

A Cardinal Principle

It may be taken as a cardinal principle that any tool, whether of production or distribution, that tends to reduce costs is a factor to be reckoned with. Harking back to the early days of the machine age, we recall that many people felt the new machines and methods would hurt wages and employment and, consequently, fought such advances. But higher-production machines enabled industry to reduce prices, and lower prices encouraged more buying which, in turn, boosted production quotas and made it possible for more people to be employed.

The same philosophy holds true in distribution. Progress cannot be opposed successfully for long. It would be most unwise for motor carriers, for instance, in the belief that such rates would divert more business to the truck lines. Higher railroad rates would add to the cost of goods and this would reduce demand. Less demand would mean less need for shipping facilities generally, including the facilities of the motor carriers.

We know to what degree, in days gone by, the waterways and railroads looked upon motor transportation as a competitor. The railroads in England influenced legislation to prohibit the use of highway vehicles, with the result that, for a time, both domestic and foreign business in England suffered. Today, most people appreciate the tonnage that is supplied to the railroads and inland waterways by motor trucks serving as feeder lines

It goes without saying that we must get our distribution costs down through efficient methods if we are to have a balanced economy and a volume of business that will assure prosperity.

beyond the radius previously served by horse-drawn vehicles.

In like manner we should accept the pipe lines and any other new methods as allies rather than as competitors to existing transportation media, because if such methods represent a better way of getting materials across the country, then we stand to benefit from lower prices and proportionately increased demand. In the case of fuels conveyed by pipe line, there is a direct saving to the truck lines which are big customers of fuels so transported.

It is certain that every one of our existing forms of transportation will have its advantages in one way or another, so that each will get a share of the business. Developments in one field spur greater competitive efforts in other fields and, thereby, distribution becomes more efficient and economical. Through coordination, rather than integration, of transportation facilities, it should be possible to offer better service at lower cost, which is the real goal of distribution.

Merchant Marine

At the conclusion of the war, America will have a tremendous merchant marine, an inventory of ships and trained manpower such as she never had before. This should give us a big advantage in world trade. It is quite obvious that such a fleet will form a powerful link between the United States and other countries. Our ships should be able to compete with foreign ships, even with their lower labor costs, if we can assure full loads and no delays by more efficient handling. Low cost land transportation will be one of the big factors in keeping the overall cost of shipping down. This will be reflected in the total cost of the commodity, and the resulting demand will boost tonnage requirements to keep the cycle of benefits moving. The fact that most of our ships were built for, and have served, another purpose means that we will have lower depreciation costs on our vessels than will other countries which may build new ships solely for postwar use.

Despite the fact that we shall witness a mushroom growth in transoceanic air cargo service, it will have no great effect on transportation by water, because the large capacity of ships will be in demand. Again, in the final analysis, the value of the time saved will determine the amount of shipments by air. In some cases, particularly where goods are to be shipped to inaccessible spots, the saving of many rehandlings may be a deciding point. It is impractical, of course, for bulk products to be shipped in quantity by air. For such commodities, shipments by water will in no way suffer. Rail, highway, and air carriers will be called upon to handle the cargo to and from the docks. Shipyards and ports have been built up on

both coasts, and handling facilities will be of the best.

Railroads

With the job that the railroads have done in serving the war efforts, they are destined to benefit from the improvements in schedules and handling methods they have employed to accomplish it. Since they have been operating at capacity without being able to make any substantial replacements, it is safe to say that they will be ready to start a big rebuilding campaign, to put new and better rolling stock into service, to improve their road beds, to reduce grades, to build new tunnels and bridges, and to do many other things for the improvement of service.

The fact that they are in a fairly good financial position as a result of heavy wartime business means that they can well carry out such a program. They merely await the let-up of wartime strain to throw out the old and install the new.

Pipe Lines

Pipe line accomplishments of the past year include the completion of "Big Inch," which will assure a heavy

EVERY one of our existing forms of transportation will have its advantages in one way or another, so that each will get a share of the business. Developments in one field spur greater competitive efforts in other fields, and distribution, thereby, becomes more efficient and economical. Through coordination, rather than integration, of transportation facilities, it should be possible to offer better service at lower cost, which is the real goal of distribution.

flow of petroleum from the Texas oil fields to the East Coast. More recently the last link of the 24-in. gas main from the Texas fields to the industrial areas of Western Pennsylvania and Northern Ohio was finished. This 1265-mile line can deliver 200,000,000 ft. of fuel per day, and under normal conditions gas will flow the length of the line in six days.

The effect of these conveyors on business and industry is beyond average comprehension. Fuel supplies assure the operation both of the manufacturing machinery and the equipment used to convey finished products to points of need.

Airlines

The progress of air cargo is attracting all eyes these days, and appropriately so. Hitherto planes have carried fast freight only in connection with passenger traffic. Today, American Airlines is operating many all-cargo planes on a regularly scheduled basis. As more equipment becomes available, we can expect that all the airlines will build up their freight service to a point where it will be a real factor in the distribution of goods. Naturally the lessons of war have had a tremendous influence on plane design, and planes of great size are in the offing.

Much, of course, remains to be done

before the greater picture of air cargo movement is developed. Adaptable planes, extended air fields, necessary emergency fields between, bigger freight terminals, and all the buildings necessary to the housing and maintenance of planes must be made available. These things cannot be brought into being overnight. Schedules and operating methods will require considerable planning.

Ground Handling

Provisions for the ground handling of air cargo are vitally important, because service must be measured on a shipper-to-receiver basis rather than port-to-port. Since the time advantage will be the greatest stock in trade for air cargo, it cannot be allowed to deteriorate either before or after flight. Fast handling on the ground as well as in the air must be assured. This means that proper arrangements must be made for deliveries and pickups at the airports and over the areas served. Economy as well as speed must be considered in the choice and number of motor vehicles to make the port contacts and in those which must fan out over the surrounding countryside to the towns and cities served by the airport. Schedules must be tight.

Since existing truck lines are fully equipped and capable of handling the ground transportation phase of air cargo, it is most logical that they should handle this business. American Airlines has already made contracts with ground haulers in many cities, and it is felt that other airlines will do likewise. Airlines have been wise both in realizing that these contractors are specialists in ground transportation and in their decision to use such facilities rather than to develop their own at considerable cost. They realize that for some time to come their traffic over such a spread of ground routes would not justify an independent fleet.

It now remains for the established truckers to justify the confidence placed in them and to give air cargo the speedy attention it must have, for it is only by realization that "time is of the essence" that air cargo can succeed. Actually, these two forms of transportation should be regarded as coordinating links rather than competing methods. Each may well be said to create business for the other to a large extent. Beyond that, the choice will be determined by the need. Truck lines may well take a leaf from the airline policy book and not attempt to extend their operations into the air field, even if they should be permitted, for the same economic reasons that have guided the decision of the airlines.

Highway Carriers

Motor transportation has more to offer today than ever before because wartime developments have been tre-

(Continued on page 86)

PATRIOTISM is a matter of working together for the good of the country at any time, not just a matter of offering service in time of war.

THIS is the story of the invention that revolutionized railroad transportation throughout the world, that has been adapted to surface and subway cars, and that is contributing new safety to automotive vehicles traveling the nation's highways.

It is the story of a living invention that started out to solve one problem but whose field of usefulness has been ever-expanding for three-quarters of a century.

It is the story of the air brake. And the reason for telling it now is that the air brake has now been in use 75 years.

It is also the story of the Westinghouse Air Brake Co., that, in typically American fashion, pioneered and continually expanded production until its total output of air brakes became more than sufficient to equip a train stretching twice around the world.

The major importance of the air brake is that it made transportation safer, more dependable and more economical. It conferred on trains, electric railway cars, and heavy-duty buses and trucks the freedom to go and go fast by giving them the power to stop, and so contributed mightily to the opening up of a vast country to agriculture and industry.

Expanding transportation has stimulated the flow of goods in commerce in such volume and at such low cost that the people of this country have enjoyed for a half-century a standard of living unparalleled by any other nation in history.

And when war jeopardized this standard, it was the American system of transportation, proving itself capable of moving on time the production of American industry, that has become a decisive factor in the forthcoming victory.

Origin of the Air Brake

On a trip between Troy and Schenectady a wreck delayed the fu-

The Air Brake Celebrates Its 75th Anniversary

The major importance of the air brake is that it has made transportation safer, more efficient and more economical. Trains, trucks and, since the war, ships have been equipped with air brakes. Modern signaling systems are possible because of George Westinghouse's invention of the air brake in 1869.

By H. B. ANDERSON

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ture inventor. Two freight trains had crashed into each other on a smooth, level, straight stretch of track in broad daylight.

"The engineers saw each other and tried to stop but there wasn't time," George Westinghouse was told.

Emergency stopping was impossible at that time because each car of a train had to be braked individually. Armed with a pick handle the brakeman rushed from car to car and laboriously set the hand brakes. It took a lot of muscle, a lot of brakemen and considerable time to stop a train going twenty miles an hour.

From that day on George Westinghouse worked to design a brake that would make rail transportation safer. He tried and discarded steam and electricity as power sources before he got the idea for an air brake from a magazine article that described how engineers, in building Mont Cenis tun-

nel through the Alps in Italy, had constructed a 3000-ft. pipe line through the mountain and pumped compressed air through it to power the rock drills.

At that time, no compressed air apparatus of importance had been put in operation in this country, but Westinghouse saw the possibilities. Compressed air could be piped, had been piped, 3000 ft., many times farther than the longest train of that day. It offered the simple, dependable form of power he had been seeking.

Patent No. 5504 was issued to George Westinghouse April 13, 1869. He had worked two years on his design. He had enlisted the financial support of a Pittsburgh foundry executive who financed the building of demonstration equipment. Now he was ready for a test run.

The First Test Run

The inventor was only 23 years old then, but he persuaded the superintendent of what is now the Panhandle division of the Pennsylvania Railroad to arrange the first test run.

The inspiration for his air brake came to George Westinghouse in a magazine article describing the building of the Mont Cenis tunnel through the Alps in Italy. To power the rock drills, engineers there had piped compressed air 3,000 ft. into the mountains.



This 75th anniversary painting depicts the first train equipped with an air brake in 1869. The engineer reached for the strange new brake handle and pulled "without much confidence." The locomotive came to a stop four feet from the stalled wagon.



The Steubenville, Ohio, accommodation train (locomotive, tender and three passenger cars) was equipped with the new brake. Reports of that time tell how the train pulled out of the Pittsburgh terminal with a number of railroad men aboard to watch the demonstration. As it emerged from Grant's Hill tunnel, the engineer was horrified to see a huckster's cart on the tracks two city blocks away.

The driver applied his whip. The horses reared and stalled the cart directly in the path of the approaching train. The engineer, "without much faith," reached for the strange brake handle and pulled. The brakes took hold suddenly and when the passengers rushed from the cars, they saw the locomotive stopped four feet from the cart.

There could have been no more dramatic test had it been planned. It was the first successful emergency stop in railroad history.

It brought fame to the brake's inventor, it launched the Westinghouse Air Brake Co. on its eventful manufacturing career, it gave new impetus

to railroading, and it helped create gainful employment for hundreds of thousands in both industry and agriculture.

Worldwide Recognition

The air brake fanned public imagination from the start. Thousands of men and women had invested in the various railroads and this new safety control enlarged the horizon of their hopes.

Its fame was not restricted to this country. A Belgian railway adopted it as early as 1872 and one in Mexico in 1873. The French quickly specified it as standard equipment on all the passenger cars in that country.

At home, demand for air brakes swiftly outdistanced the productive capacity of the original shops at the corner of Pittsburgh's 25th St. and Liberty Ave. Larger quarters were found.

Old-timers recall the concern that the men in the air brake shops felt over their tremendous production. It was a common pastime at the lunch

hour for them to figure out how long their jobs could last on such a basis. They would divide the combined number of unequipped railroad cars plus normal replacements by the thousand sets of brakes being produced each day, and attempt to determine the exact hour of the day, month and year that this nation's need of air brakes would be everlastingly filled.

What they failed to take into consideration was that the nation's growth and expanding agricultural and industrial production required more and more railway cars. And then as now, increasing train size and speed necessitated improved braking equipment. The advantages of the air brake extended its market into all branches of transportation faster than the factory could produce the equipment.

But the air brake got ahead in the world only by competing successfully against every other type of train-stopping device that the inventive mind of man could conceive.

Railroads conducted tests every few years in which all brakes on the market vied in stopping performance under a fixed set of conditions. It was not until the trials of 1887, at Burlington, Ia., that the supremacy of the air brake was established permanently.

Evolution of the Air Brake

The Smithsonian Institute considers the invention significant enough to honor it with a permanent exhibit along with the first electric light, the first automobile, and the first airplane.

The Number One improvement in the air brake solved for all time what must have been close to the Number One nightmare of the railroads of that day, runaway cars. Couplers were not too reliable then and cars frequently became detached. This broke the pipe line, let the air escape and braking power was gone.

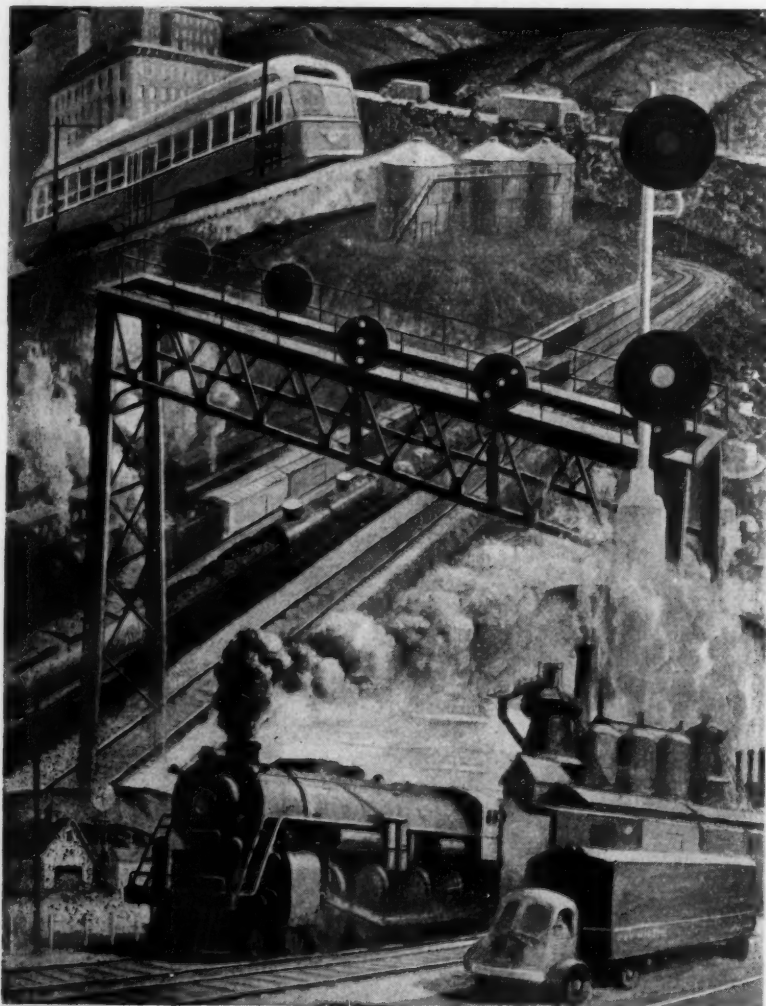
Westinghouse and his engineers developed an automatic device called a "triple valve" and they located one of these and an air reservoir on each car in addition to the main one on the locomotive. All the while a train was in motion, the pipe line and the car reservoirs were charged with compressed air. When the engineer wanted to stop the train, instead of letting air into the pipe line as before, he let the air out. The reduced pressure activated the triple valve which automatically turned the air from the car reservoir into the braking cylinder.

The ingenious part of this arrangement was that, when a train broke in two, the automatic feature caused both parted sections to stop promptly. This safety feature is still acclaimed as one of the great inventions of all times.

Until the late 1880's air brake engineers failed to solve the problem of safely controlling freight trains which had by then grown to 50-car length. Normal stops could be negotiated satisfactorily but the emergency stop consisted of a series of shocks that endangered the contents of the cars and the cars themselves.

The difficulty was the time required
(Continued on page 88)

This picture conveys something of the significance of the air brake. Originally conceived to give emergency stopping power to trains, it has been adapted to almost all forms of transportation.



By GEORGE F. BAUER
International Trade Consultant

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Cartels and Their Effects On Distribution

A CARTEL differs from an association for export in which the firms of but one nation participate. It is confused and inadequate reasoning to regard a cartel and an export association, as set up under the Webb-Pomerene Act, under one heading. Neither should it be inferred that the Webb-Pomerene Act was designed to foster cartels.

Export Associations

Fundamentally, the purposes of the Webb-Pomerene Act are consistent with the objective of making more products available to more people everywhere. The Export Association, voluntarily formed under this act, can, by permitted cooperation of American firms domestically competitive, effect efficiency and economy in sales promotion, development of world markets, in shipping and in servicing, and it can pass economies on to the final consumer.

The Export Association is not a monopoly; for it comprises firms of the United States only. It is true that the American firms in the Export Association do not have to compete among themselves, but the Association competes strenuously with the export associations of other nations, and even with foreign cartels representing combined national groups.

In the thirties, European automobile manufacturers inclined toward the cartel idea. It was thought that sections of the world could be allocated as sales outlets to specific manufacturing nations. The proposal was never realized in practice. In the United States, there was public, legal and industrial opposition to participation in any such arrangement.

Business in our country has been developed on the basis of free enterprise and open competition. Public sentiment, seemingly, is in favor of continuing our development along those lines.

Competition Desirable

Industrialists also have been convinced of the advantages of competition as a means of stimulating improvements and effecting economies which could be passed on to the final consumer. This policy of small profit per unit and many small profits through many sales has been the economic foundation of the mass production industries in the United States. This competitive factor, with its beneficial effect on volume of sales, tends to be subordinated whenever plans for division of sales territories among manufacturing nations are brought up. On that one point alone, any cartel program for an American industry, such as that proposed for motor vehicles, is likely to face serious opposition.

International cartels tend to over-stress safeguards to profits of manufacturers in various national groups. There usually seems to be a feeling that public absorption of goods represents rigid totals to be divided according to some arbitrary quota, or

A NUMBER of people are advocating the establishment of cartels as a proper method of conducting international trade. The point is debatable. Are people benefited by cartels? Do cartels increase the use and consumption of goods, and, thereby, stimulate job-creating activities of production and distribution?

If the answer is yes, cartels may warrant public support. If the answer is no, caution would seem advisable. Just because certain nations believe in cartels on a worldwide basis is no reason why the United States should participate in them.

A cartel is a manufacturers' combination. It is European in origin. An international cartel is a contractual agreement between independent establishments in different nations regulating the amount of output for each establishment, and in certain cases also the prices. In some countries cartels have tended to become government monopolies.

division of territories, without regard to the capacities of the manufacturers in the various national groups. The efficiency of a group, or of an individual manufacturer, can expect little encouragement under such a restrictive system.

Consumer Benefits Doubtful

Economies resulting from competition in manufacturing and distribution, if possible under cartels, are not likely to be passed on to consumers. Rather than larger total profits as a result of mass sales, the cartel objective seems to aim at large unit profit and consequent small sales volume. To our way of thinking, this is unsatisfactory all around.

Consequently, it can be seriously questioned whether cartels that limit international competition are advantageous, even to the participating manufacturers, collectively and individually. If a cartel prevents development of mass sales, and discourages passing on economies to consumers, it would seem to be a defective instrument both for the members of the industry using it and for the general public everywhere.

Cartels and Associations

Cartelization is a European idea, whereas the idea of export associations, as authorized by the Webb-Pomerene Act, is an American conception. In the first instance, the world is divided into privileged areas for specific national groups; in the second, the world is open to every firm, whether or not a member of an export association. The difference is absence of competition in given territories, among national groups or individual manufacturers, on one hand; on the other, there is keen competition among manufacturers, or of the export association of an industry in one nation against similar associations of other countries.

The demarcation between international cartels and national associations for export is one of degree of competition. International cartels establish rigid limitations; national associations for export have latitude and flexibility.

Government Cartels

Another feature is developing with respect to cartels as opposed to export associations. In certain European nations, the cartel has been given legal status. Cartel contracts have been held binding by national courts in several instances.

In other cases, cartels are government monopolies. Purchasers when dealing with some cartel organizations are finding that they are not negotiating with a combine of producers, but with a governmental agency.

Thus, cartels are becoming government sales control agencies on one hand, or a government purchasing commission on the other. The trade grouping previously inherent in the cartel is giving way to governmental organization. It is the equivalent of government in business on an international scale.

If the trend toward government sales and purchase controls in the form of cartels continues, the participating members will no longer be national groups of manufacturers but the governments of particular nations.

This situation might bring with it the centralization of all international purchases of a given country through some official agency. In the case of Soviet Russia, this centralization is effected through the Amtorg Corp.

Restricted Distribution

The sale of American goods cannot be made direct to distributors or retailers in Russia but must be presented through the Amtorg Corp. Regardless of the number of American suppliers of goods, there is but one

distributor for them in Russia and that is the Amtorg Corp.

With reference to all imports into Russia, the Soviet Government decides through the Amtorg Corp. what make, or makes, of products shall be purchased. There is no competitive distributor outlet in Russia. Amtorg Corp. is the only one.

In an American industry there may be as many as 35 producers. Some of them are large; others are small. Normally, a smaller one would have a chance to develop direct outlets for his goods just as well as a large concern.

There are instances of companies that succeeded in overseas sales better than in domestic trade. Any American company, depending on ability and not size, was able to create outlets not only in the main cities of a foreign country, but also in some of the lesser communities. Success was dependent on the particular product and the ability of the export management.

Open Distribution

In the illustration above, 35 producers might have established direct channels of distribution in a foreign nation. As result of this competition consumers in the particular country naturally benefit.

If an official agency is established for the particular country and the purchases are limited by the officials in it to products of 3 or 4 manufacturers, it is evident that competition in the distribution channels of that country will diminish. The tendency will be toward rigid procedure, limited selection, fixed prices and little regard for individual tastes and preferences.

Economies, if any, are not likely to be passed on to consumers. Prosperity in terms of abundance of goods among the masses is scarcely be promoted by limiting competition.

Knowing of the bottle-neck that exists in connection with sales to a country using a "cartelized" purchasing arrangement, only such manufacturers as feel themselves in a particularly favorable situation are likely to offer their wares; the others, inhibited by red tape, handicapped by productive capacity or some other limitation, are not likely to get anywhere by offering their products to the "centralized" purchasing agency.

Two disadvantages are the result. Fewer suppliers compete for the business. With fewer suppliers competing, in the long run, it is doubtful whether concentrated purchases will prove as efficient or economical as some profess to believe.

Sales Cartels

Cartelized purchasing may show another disadvantage. Already there is agitation to permit cartelized sales by American producers, or participation in international combines, to eliminate competition among individual manufacturers when offering goods to countries where officially centralized purchasing agencies have been set up.

Government intervention in what normally is private trade would follow. The 35 American manufacturers in a single industry might combine, with government approval, and agree that sales are not to be made to the official purchasing agency of another country except through the American combine, or a cartel of which the

United States is a member.

A foreign country, consequently, could purchase only the makes of products agreed to by the American combine, or cartel. A composite product beneficial to all of the 35 manufacturers would have to be produced or some quota arrangements would have to be set up.

Theory and Practice

At best it would be a makeshift. Even with raw materials, an agreement on a composite specification of a product for adherence by a number of producers, would be difficult and with manufactured goods, practically impossible. Official directives would replace natural selections under the competitive systems. Divisions of a quota satisfactory to all manufacturers in a group affected by it has never been accomplished.

While theoretically, officially centralized purchasing of one country might be offset by officially centralized selling in another, the economies of competitive trade would hardly be of benefit to consumers. Natural standards of living with abundance and varieties of goods would be seriously jeopardized.

Before endeavoring to answer cartelized purchasing with cartelized selling it may be well to stop and review the consequences and ascertain whether through that move we would draw closer to or farther from what Eric A. Johnston, president of the Chamber of Commerce of the United States, calls popular capitalism, or a capitalism of which the prime purpose is to benefit all people, and not just one segment, be it a private or a government group.

Air Cargo Potentials In Latin America

AIR CARGO POTENTIALS BETWEEN THE UNITED STATES AND LATIN AMERICAN COUNTRIES. Series prepared by Transportation Unit, U. S. Department of Commerce, Bureau of Foreign and Domestic Commerce, Washington, D. C. Amos E. Taylor, director. 32 to 34 p. each. Tables and summaries. Inquiry Reference Service.

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Peru . . .

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However, the report goes on to say that the "trade would offer greater opportunity to air carriers if there were not the large ratio of 168 to 1 existing between the value of exports and imports. This unbalance creates special financial problems which accompany one-way traffic movement . . .

"Types of commodities most likely to provide the best cargo for air shipments from the United States to Peru are aircraft engines and parts, women's silk hosiery, motion-picture films, yeast, radio equipment, typewriters, bathing suits, and phonograph records. Items best suited to move north from Peru to the U. S. are furs, silver manufactures, stamps, and platinum ores."

Venezuela . . .

Prospects of air cargo trade between the United States and Venezuela, considering proximity and, also, in view of the South American country's economic dependence upon the U. S., are exceedingly good. However, trade volume will be slightly offset by an "unbalanced trade, a disadvantage shared to some extent by nearly all South American countries. Venezuela's imports from the United States in 1939 were valued at \$61,588,221 as against exports with a value of only \$23,414,943. The resultant ratio of 2.6 to 1 is larger than that found for any of the other republics . . .

"Of 508 listed commodities valued at \$10,643,083 and weighing 39,013,165 lb., certain ones seem to be particularly suited to transport by air. Such exports are: women's hosiery, tooth brushes, dresses, radio-receiving sets, X-ray apparatus, motion-picture film, and popular phonograph records.

(Continued on page 89)



PAYLOAD IS PEOPLE OR PACKAGES



A most cursory study of the Constellation's performance records indicates immediately that it can never be considered a one-job transport. *Versatility* is the word. Interiorwise, for instance, the Constellation is easily adapted to meet the commercial demand of the specific route, to carry its payload in terms of people or packages or both. Flightwise, it is able to operate most economically over the specific distance required—whether transcontinentally or on flights as short as 100 miles. Indeed, versatility is the word. Express, sleeper or inter-city local, the Constellation is designed to solve *special* problems of the individual airline.

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The Lockheed Constellation

SETS THESE NEW WORLD STANDARDS

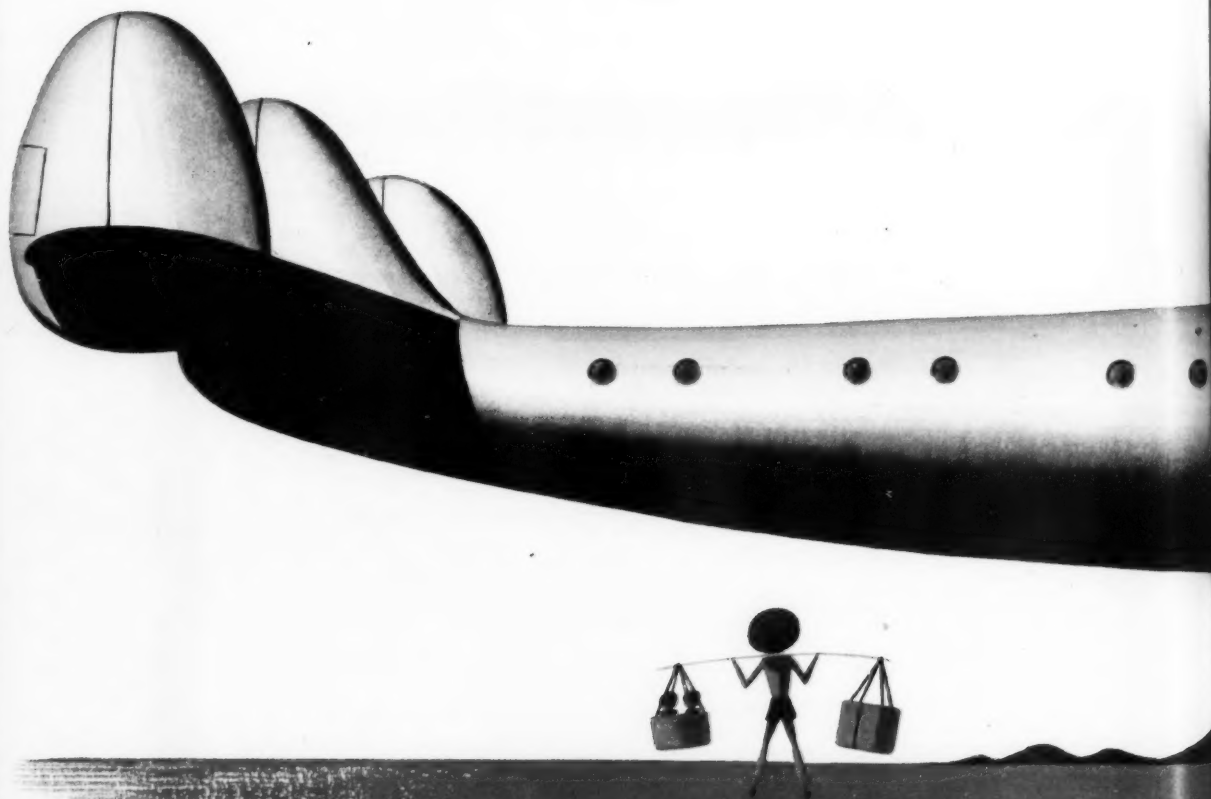
Biggest load-carrying capacity of any transport

Longest range of any transport ☆ Fastest speed of any transport

Greatest rate of climb of any transport ☆ Highest cruising altitude of any transport

And these performances make the Constellation

the *safest* of any transport



Leadership

IN LOAD-CARRYING CAPACITY

Lockheed's Constellation is a big plane—big enough, in fact, to carry 64 passengers and their baggage. In addition, it has adequate space for mail, express and cargo. Two compartments totaling nearly 500 cubic feet are available and may be loaded and unloaded underneath the plane. Revenue loads of approximately 18,000 pounds can be carried easily by the Constellation on medium-distance operations.





Q U E S T I O N S

Q. Are oxygen masks ever necessary when flying in the Constellation? —M. G., Maplewood, N. J.

A. *No. Constellation passengers never go above 8,000 feet even if the plane's altitude is as high as 20,000 feet. Automatic devices control density, beat, purity and circulation of air in passenger compartment.*

Q. Why does it take so long to develop a new transport? —John T., Baton Rouge, La.

A. *In addition to hundreds of thousands of man-hours of basic engineering, literally thousands of tests are made in the wind tunnel before an airplane is built. On the Constellation, a complete hydraulic system, duplicating the entire functional mechanism of the airplane, was constructed and tested for months to assure perfection of all parts.*

Q. Is there a reason for the sharklike profile of the Constellation fuselage? —Tom P., Los Angeles, Calif.

A. *Yes. Its airfoil design allows maximum length for full-round pressurized cabin. Down-sloping nose camber gives better pilot visibility—reduces landing gear weight.*

Q. You say the Constellation is a safe airplane. Why? —R. L., Springfield, Mass.

A. *In the first place four powerful engines mean greater safety. The Constellation will CLIMB on any two of them, land or take off fully loaded with a very short run, and is able to fly over bad weather. In addition to its great power there are scores of other safety features. A few of them are: tricycle landing gear, automatic fire extinguishers and power boosts on operating controls.*

Send in your questions . . . Address: Lockheed Aircraft Corporation, Department 69-55, Burbank, California

LOCKHEED

FOR NEW WORLD STANDARDS IN AIR TRANSPORTATION

LOOK TO *Lockheed* FOR LEADERSHIP

Lockheed Aircraft Corporation, Burbank, California

Ground Handling and Stowage Of Air Cargo

A NUMBER of engineers and architects, as well as airline executives have been talking and writing about the airport of the future, and they have shown railroad trains coming into these ports with resulting railroad sidings, etc.

We have consistently advocated a simpler system of handling at airports, namely "motairhandling," which would include the motor truck, the helicopter or autogyro, and other means of transporting loads quickly to the port from consolidation centers.

Recently, an engineer of Yale & Towne Mfg. Co., Mr. F. A. Vossenberg, prepared an excellent report which is available in its entirety by addressing Yale & Towne Mfg. Co., Philadelphia 24, Pa., and asking for "Air Cargo No. 1." We feel this report warrants our giving it more than the casual mention which we did last month, and we are reproducing here with permission two charts which are part of the report.

Note Chart No. 1, with the semi-trailer motor truck tractor unit backed up to the unloading shed or consolidation area at the airport, with the load having been assembled either

By MATTHEW W. POTTS
Materials Handling Editor

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at the point of manufacture or elsewhere, in a unit load, so that it can be easily picked up and stored by a standard fork truck. With this operation, they can be easily stacked or placed on trailers for transportation out to the plane for loading with a fork truck as shown at the bottom of the illustration.

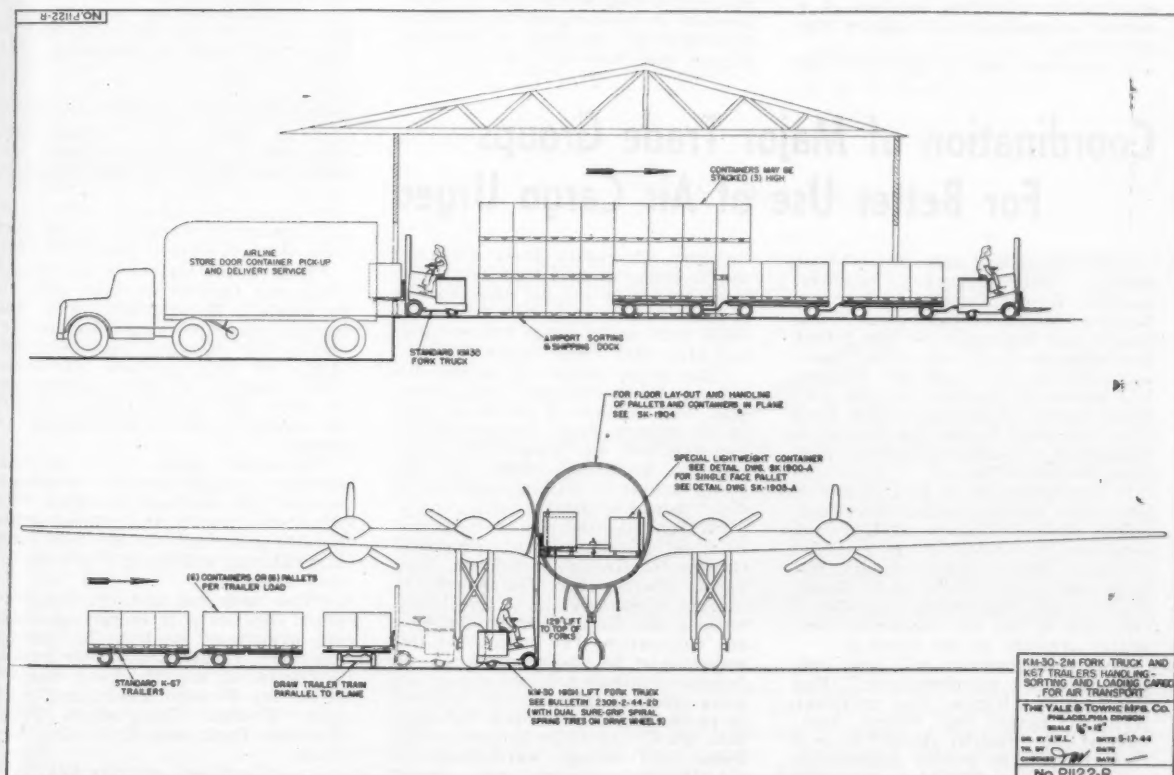
In order to expedite handling within the plane, and to show the load distribution and types of containers or unit loads and pallets suggested for use, as well as a special cargo hand lift truck, with multiple rubber wheels for easy handling over rough or irregular surfaces in the plane floor, we show Chart No. 2. This shows the distribution within the plane and the method of holding down the load while in transit.

Here is a complete system which not only shows how to bring the ma-

terials to the airport, but how to carry it to the plane and distribute it within the plane, and fasten it for flight. While it is not the only system that can be used, it probably is applicable for at least 50 per cent of all military and for 75 per cent of all postwar domestic and export air cargo work. In addition, containers have been designed, equipped with inside straps such as used on passenger seats which are adjustable so that the material can be strapped in place to keep it from moving inside of the container. These containers are also designed so that they can be knocked down when not in use and the four sizes of containers are interchangeable with each other, which will materially hold down repair costs, and aid in the reassembling of containers after return shipments. The method proposed for holding the loads in the plane is a series of clamps known as the "Evans Gear."

The idea of using containers within the plane has many advantages in reducing ground handling, reducing the amount of time required for stowing miscellaneous packages, which have to come off at some one point, and,

Chart No. 1



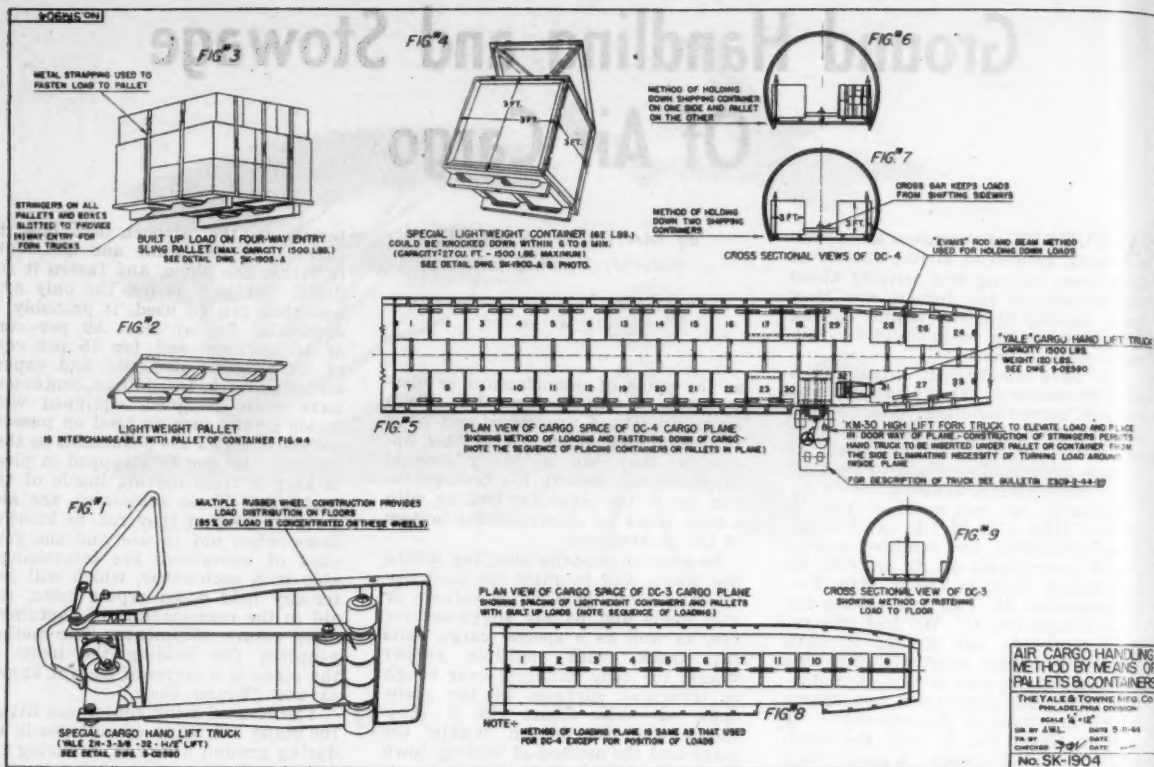


Chart No. 2

in the case of large shipments, the containers should be packed by the shippers of the commodities, thus eliminating individual handling of a number of packages through several operations.

It is going to require experimenting

with a number of ideas before an efficient system of air cargo handling will be developed. We believe this report is a step in the right direction, because it coordinates the complete movement or handling through the airport and into the plane.

(Both charts courtesy Yale & Towne Mfg. Co.)

This clearly illustrates that the manufacturers of materials handling equipment, through their able engineering organizations, can help to solve material handling problems. Coordination of this character will increase air cargo's potentialities.

Coordination of Major Trade Groups For Better Use of Air Cargo Urged

Coordination and cooperation of air carriers with producers, retailers, bankers, freight forwarders, customs brokers, motor carriers and warehouses, are imperative for the fullest development of air cargo and post-war distribution, speakers declared last month at a special luncheon conference at the Hotel Astor, New York City, sponsored by the Air Commerce Committee, Aviation Section, New York Board of Trade.

"Coordination of all groups able to contribute toward making for round-out services all along the line from producers to consumers is essential for more efficient and economical distribution," declared George F. Bauer, international trade consultant, who as chairman of the Air Commerce Committee presided at the meeting.

"Air transportation will have definite effect on merchandising," Maj. Benjamin A. Namm, vice president, National Retail Dry Goods Assn., pointed out. "Smaller stores," he said, "will be able to handle merchandise on which formerly there was little

turnover. Purchases from producers can be better aligned to purchases by local buyers in the air age. Variety of merchandise can be increased, especially with styled goods and novelties and also with some staple products.

"The entire tempo of merchandising may be accelerated," Maj. Namm said. New patterns of silk from China or of pottery from Europe can be merchandised on basis of air-borne samples, air-borne orders and air-borne deliveries within a period of days instead of months.

"Warehouses will be an important unit in distribution by airplane," George W. Gerlach, president, Manhattan Storage and Warehouse Co., stated. "Transportation and warehousing are basic functions in modern civilization. The suggestion that warehouses be incorporated at air freight terminals does not appear any more practical than erection of hotels at passenger air terminals. Refrigerator trucks operating between established cold storage warehouses and air freight terminals can provide

more efficient and economical service. "Since 1942," Mr. Gerlach said, "DandW, a national magazine devoted to vital subjects bearing on the warehousing industry, has given support on a wide front to efforts for coordination of warehousing facilities with those of the air transport lines.

"Merchandise warehouses or 'Global Commerce Centers' in cities with air terminals," Mr. Gerlach said, "can provide space for sample displays, facilities for carrying manufacturers' stocks of such products as drugs, films, jewelry and other merchandise of value and light weight of which the nature is ideally adapted for air cargo.

"Increased tempo in commercial activity through air and warehouse service," Mr. Gerlach concluded, "will stimulate import and export trade, provide additional jobs and help maintain national well-being above depression levels."

"The bank can aid air commerce more effectively if certain obstacles are overcome," said A. M. Strong, chairman, Committee on Uniformity in Documents and Practices, Bankers Assn. for Foreign Trade, and manager, Foreign Department, Public National Bank and Trust Co., New York.

(Continued on page 90)

Conveyor System Used in Packing Signal Corps Items

A POWER conveyor system now in use by the Philadelphia Signal Depot of the U. S. Army Signal Corps is speeding up the packing and shipping of the 75,000 different items prepared by the Depot for domestic and overseas shipment. In addition, a better overall packing job is being accomplished in less space and with a saving of thousands of man hours.

The power conveyor extends the length of the main floor of the Depot and many of the packing operations, such as strapping and stapling, are effected as the items move along toward a chute which carries them down to the shipping department. The sav-

ing in time and floor space achieved by this installation permits more emphasis on the application of special skills and modern practices in effectively preserving and packing for depot stocks and for shipment.

Up-to-date packaging includes, for small items (1) cleaning, by the use of various aqueous liquids and petroleum solvents; (2) preserving, with various preventive compounds applied by spraying, brushing, or dipping; (3) wrapping in grease-proof, acid-free, non-corrosive, wax free wrappers; (4) labeling, by a method that prevents all possibility of removal of the label and permits prompt identification by Supply Personnel without dis-

turbing the preventive treatment, wrapper or seal; (5) overwrapping, for items of special importance or susceptibility, in order to prevent sticking.

Heavier items, such as power units and radio transmitters for tanks and half tracks, require a more elaborate packaging. The crate for a radio transmitter is constructed very solidly and with great care and the instrument itself is sealed in a moisture-proof barrier. Just before sealing, a dehydrating agent, consisting of bags of silica-gel or other desiccant, must be inserted inside the barrier. Then approximately 80 per cent of the air is sucked out of the container by means of a vacuum air extractor, and the top of the barrier is finally heat sealed. The crate is strapped and stapled for shipment.

Heavy items are side-tracked from the power conveyor at the Philadelphia Signal Depot and sent to the shipping basement by elevator instead of by chute, to avoid needless shock. For the great majority of the items dispatched by the Depot, however, the full conveyor system and chute can be used. This new installation has resulted not only in conserving space and man hours but in a marked increase in the efficiency of the Packing Department, so essential to the preservation of Signal Corps equipment and the smooth flow of supplies to the battle fronts.

Scale Model Fork Truck

EXACTLY one-sixth the size of the 25,000-lb. capacity Elwell-Parker power industrial truck which it represents, this model truck was built from



Built by hand, this exact scale model performs all of the functions of the fork truck which it represents.

the blue prints which are used in manufacturing the original operative type. The miniature is being demonstrated by O. R. Heidenrich, district manager of Elwell-Parker in Pittsburgh, who built it in 1300 hrs.

Each function of the truck is operated by means of a motor and controlling device. The controlling devices are all hand made and patterned after those in the standard unit. The drive motor, through its differential, operates two chains, each of which drives the front wheels on independent or trunnioned drive wheels.

Gear reductions both for the hoist and steering motors, as well as the differential gear, were either purchased or made by hand. The motors were purchased outside and are slightly larger in proportion than those required by the original machine.

The model truck measures 32 in. in length, 20 in. in height and 15 in. in width, and carries all the safety de-

vices and overrun devices of the original. It affords maximum traction whether the lifting forks are loaded or empty; consequently it meets the requirements of an oily mill floor in so far as traction is concerned.

Also shown in the illustration are various types of palletized prime unit loads, including boxes, barrels, bags and bulk material. The small dump body on the skid, for bulk material, is equipped with an automatic trip. The skid shown was also made by hand.

25th Anniversary



AN HISTORIC EVENT in the history of commercial aviation in the United States took place 25 years ago Nov. 14 last when, in the early morning, a huge four-engine Handley-Page bomber rose from Mitchel Field, N. Y., with 600 lb. of air express cargo and headed west. Never before had such a flight been attempted. In October of this year, the Air Express Division of Railway Express Agency reported a new high of 65,539 shipments handled for the domestic airlines at New York's La Guardia Field, an average of 2100 a day.

A Basis for Air Cargo Rates

Part 2—Complicating Factors in Arriving at Costs

The greatest opportunity for reducing air cargo costs rests in the field of ground handling which includes pick-up and delivery service. Speed, dependability and convenience are of prime importance in the performance of pick-up and delivery for air cargo. The airlines should jealously guard against losing minutes on the ground which may mean miles lost in the air. Coordinated arrangements with existing motor carriers seem the best solution for the airlines.

LAST month's article discussed the costs of operation on which air cargo rates might be based when planes carry nothing but cargo. The cost situation, therefore, was fairly simple. In reality, however, the cargo cost picture is complicated by two things. First, cargo must be handled on the ground; and second, there are, and will be for some time to come, two types of cargo handling: (a) where combination passenger planes are used and where cargo is really a by-product, and (b) where cargo alone is carried—a specialized service—real air cargo.

Most experts agree that the cost of transporting cargo in passenger planes should not differ greatly from the cost of carrying passengers insofar as direct and indirect flying expenses are concerned. To arrive at such figures the cost of flying a plane is allocated equally over each ton of payload carried, whether it is a ton of passengers or a ton of cargo.

Traffic and Advertising

The only difference entering into the calculation of other line-haul costs for cargo, as compared with passengers, is in traffic and advertising expense. This expense has always been much greater for passengers than it has been or will be for cargo. It has been estimated that traffic and advertising expense per passenger ton-mile will be at about 8c. in the immediate postwar period. At the same time various ground carriers have reported traffic and advertising expense per shipment to be as follows: railway express 0.5c.; motor carriers 7c., and freight forwarders 3c.

For the next few years the airlines will have to spend considerable in selling air cargo services; probably more than will the ground carriers. The Curtiss-Wright Corp. in its study of "Air Transportation in the Immediate Postwar Period," estimates that this selling and promotional expense of the airlines will amount to 21c. per shipment. When one considers that an average 1941 air cargo (or air express) shipment weighed 25 lb. with an average haul of 750 miles, this would mean a ton-mile cost of approximately 2c. for air cargo traffic and advertising. Even though we have a change in average weight of shipment when real air cargo becomes more common and a change in the average



By JOHN H. FREDERICK

Air Cargo Editor

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length of haul one way and the other, the 2c. figure still seems conservative for a time at least.

Table I shows the estimates of various manufacturers for several types of future combination passenger and cargo planes as well as immediate postwar all-cargo planes. From this table it appears that cargo carried in combination passenger-cargo planes will be at a slightly less total ton-mile operating expense than the all-cargo planes. This is because cargo (or express) carried on passenger planes is subsidized by passenger and mail traffic to some extent. At least, under present operating practices passenger baggage and air cargo, carried in passenger planes, are handled by the same employees in loading and unloading. Other elements of ground costs are also applicable to all classes of traffic.

It appears that a good deal of air cargo for some time will be carried in passenger planes, thus taking advantage of the principles of joint costs and increasing returns applicable to all agencies of transportation. But, whether carried in combined passenger and cargo planes or in all-cargo planes the ground handling costs will have to be considered.

Ground Handling

Ground handling involves all the necessary operations in the transportation of air cargo except the airline haul between airports, such as: pick-up and delivery; terminal operations such as weighing, billing, sorting and dispatching; loading and unloading

trucks and planes; tying down and other stowage operations in placing cargo aboard planes.

Until recently, ground handling with the exception of loading and unloading planes, has been carried on exclusively by the Air Express Division of the Railway Express Agency throughout the United States. The cost of pick-up and delivery as performed under present arrangements has been estimated at \$1.04 per shipment. This does not include loading and unloading the planes. If we apply the cost of \$1.04 per shipment for pick-up and delivery to the 1941 average air express shipment weight of 25 lb. and to the 1941 average length of haul of 750 miles per shipment, we arrive at a cost of 11c. per ton mile. According to the figures in Table I, postwar ton-mile operating expenses of all-cargo planes will average between 27c. and 29c. Suppose pick-up and delivery expense is maintained at the present level, the total costs of operation from shippers' doors to consignees' doors will then be at about 38c. to 40c. per ton-mile.

Both of these cost elements may be reduced but the greatest opportunity rests in the field of ground handling. Such costs may be reduced by:

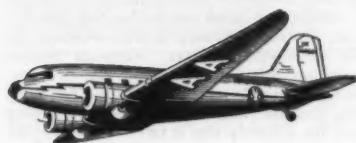
(1) Further development of materials handling equipment for use in loading and unloading planes and handling cargo at airports.

(2) Reducing costs of the physical pick-up and delivery service. It is the latter subject that will be discussed here.

Pick-up and Delivery

Several methods have been suggested for reducing pick-up and delivery costs which in turn should be reflected in lowered air cargo rates and thus tend to increase the volume of traffic; but only two of them have reached the stage of deserving serious attention at this time.

The first of these is to do away with the present special, unscheduled pick-up and delivery service such as that provided today by the Railway Express Agency for air express, and schedule all pick-ups so they will arrive at airports for dispatch in time to reach their destinations by the next morning. Then at destination airports deliveries would be so scheduled as to reach consignees before noon at the latest. It is held that



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AIR SHIPMENTS both ways between the United States and Mexico now can be made at rates low enough to warrant the use of air shipping all the way in regular, day-by-day transactions. Airfreight, used in conjunction with American Airlines International Air Express, makes this possible.

From cities in the United States, cargo is shipped to Fort Worth or El Paso by Airfreight; then, to Mexico City or Monterrey via American Airlines International Air Express. For cargo from Monterrey or Mexico City to points in the United States, the process is reversed.

At present, Airfreight is available in less

volume than many interested shippers would wish. Commercial Airfreight cargo does not occupy space needed for vital war traffic; hence, current capacity is small. Nevertheless, the present operation of Airfreight offers shippers an opportunity to test and perfect plans for its greater postwar use.

Airfreight is offered in 43 American Airlines cities and adjoining communities. Rates are set in four classifications, and include pick-up and delivery at the points in the United States where Airfreight can be obtained. Shippers everywhere in the United States can take advantage of Airfreight, however, by using coordinated trucking service.

For complete information write

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THE NATIONAL AND INTERNATIONAL ROUTE OF THE FLAGSHIPS

overnight, rather than same-day delivery, would satisfy most consignees since many air hauls are too long to permit complete door-to-door service to be accomplished within the business hours of a single day; furthermore, shippers ordinarily do not have goods ready for shipment until late in the day. "In the few cases where air express may be picked up early in the day, it often happens," as the Curtiss-Wright study points out "that the shipment is delayed at the originating airport (while awaiting an outgoing schedule) to such an extent that it arrives at the destination airport after 4 p. m. Express arriving at the destination airport later than 4 p. m. cannot ordinarily be delivered the same day, since most receivers of express do not remain open after 5 p. m."

It has been estimated that a regularly scheduled ground service in accordance with this first suggested method of reducing pick-up and delivery costs would pull down such costs to approximately 8c. per ton-mile. This would give a total ton-mile cost figure of from 35c. to 37c. per ton-mile using the operating cost figures shown in Table 1.

A scheduled pick-up and delivery service worked out by an airline with a motor carrier seems to be sound. Potential air cargo users are accustomed to the pick-up and delivery given for railroad and air express, as well as the l.c.l. store-door delivery and pick-up services of the railroads. Shippers and receivers have been educated to expect a complete service and habit is a strong factor that has to be reckoned with.

American Airlines Tariff

The second method is embodied in the American Airlines Air Freight Tariff, filed on Sept. 14, 1944, with the CAB, and which went into effect on Oct. 15. The method here put into effect is not so much one of reducing ground handling costs, as such, but is aimed at reducing the total air cargo rates for shippers or receivers in a position to perform their own pick-up and delivery. This tariff provides an allowance in lieu of pick-up or delivery stated as follows in Rule 7:

a. Except as otherwise provided in this tariff, or as amended, a cartage allowance based on twenty (20) cents per 100 pounds at actual weight, subject to a minimum allowance of twenty (20) cents, will be paid in lieu of pick-up and/or delivery service to and/or from the airport used by the carrier.

b. Except as otherwise provided in this tariff, or as amended, a cartage allowance based on ten (10) cents per 100 pounds at actual weight, subject to a minimum allowance of ten (10) cents, will be paid in lieu of pick-up and/or delivery service to

Rate Cuts Proposed For Air Express

PROPOSALS for reductions in air express rates have been made by the Air Express Division, Railway Express Agency, to the commercial airlines. Although details have not been made public, C. A. Frey, vice-president in charge of traffic for Railway Express, has been quoted as saying that the ultimate aim is to cut present rates in half. A spokesman at Railway Express Agency's office confirmed this to D and W. In newspaper accounts, which appeared on the eve of the NIT League meeting in New York City, Mr. Frey is reported to have said that the airlines are daily increasing the size of their fleets, and thereby increasing their air express carrying capacity. "With the receipt of these planes," said Mr. Frey, "we have suggested that they ought to reduce their rates."

At present air express is moving on all airlines at the same rates. However, several lines are experimenting with new schedules, notably American Airlines, which on Oct. 15 last inaugurated an air freight schedule which, it is said, enables certain types of merchandise to be transported from New York to Los Angeles at \$39.50 per 100 lb. The lowest comparable railway express rate for similar cargo is understood to be \$84.

and/or from the carrier's city consolidation station in localities where such stations are maintained.

Payment of the "cartage allowance" is provided for in this manner:

a. Allowance in lieu of pick-up service as provided in Rule 7 will be payable only to consignee upon presentation of a written statement either itemized indicating date and weight of shipment, location of station to which shipment was delivered by consignee, and names of consignee and consignee, or by including with this statement memorandum copy of bills of lading and/or freight bills within fifteen (15) days after the first of the month following the month shipment is tendered for transportation to the carrier.

b. Allowance in lieu of delivery service as provided in Rule 7 will be payable only to consignee upon presentation of a written statement either itemized indicating date and weight of shipment, location of station from which shipment was received by consignee, or by including with the statement memorandum copy of bills of lading and/or freight bills within fifteen (15) days after the first of the month following the month shipment is received by consignee at the carrier's terminal.

Under the American Airlines tariff a shipper or receiver is certainly entitled to the pick-up or delivery allowance if he provides his own service by means of his own trucks or, apparent-

ly, by a motor carrier of his own selection rather than relying upon the motor carrier designated by the airline to perform pick-up, delivery and consolidation.

Difficulties Involved

Of course, it will take some time to see how the American Airlines tariff works out. It should be a step in the right direction, but there are several difficulties:

(1) Even though a saving might be apparent to shippers and receivers it might not be a real one when over-all costs of operating their own delivery equipment and the inconvenience involved are taken into consideration. Also, the process provided for collecting the "cartage" allowance in the tariff now on file seems to the writer somewhat cumbersome and inconvenient.

(2) The Air Express Division of the Railway Express Agency includes pick-up and delivery of all shipments as part of its service. The Railway Express Agency also provides it for rail express. Air cargo is competitive with both. That a complete service involving store-door delivery and pick-up is a competitive weapon is shown by the fact that the railroads had to inaugurate pick-up and delivery soon after motor carriers started it.

(3) A delivery service should at least be offered so an airline may not have to notify consignees when a shipment arrives. Any arrangement made either by telephoning or by mailing the notice of arrival will be cumbersome and costly, and the latter method would sacrifice the speed advantage. Air cargo will be likely to arrive several times a day at most airports and it will usually be inconvenient for consignees to send a truck to pick-up incoming shipments two or three times, or more, each day or else sacrifice some of the advantages of speedy long-haul service.

(4) Speed, dependability and convenience are of prime importance in the performance of pick-up and delivery for air cargo. The airlines should, therefore, jealously guard against losing minutes on the ground which may mean miles lost in the air. It would be a mistake to put air cargo development at the mercy of receivers who take a long time to call for goods in their own trucks and then say: "I can't see where this air cargo business saves so much time." Speed of line-haul must be tied into speed of delivery and pick-up.

Coordinated Service

It seems to the writer that the best solution is for the airlines to form cooperative and coordinated arrangements for pick-up and delivery with existing motor carriers. American Airlines is leading the way in this through its arrangements with such motor lines at its chief terminals. Experience, no doubt, will show the value of scheduled pick-up. For example:

A study of motor truck operations made by Mack Mfg. Corp. for Curtiss-Wright shows that about 33c. per shipment would represent a reasonable average cost of pick-up and delivery for air cargo in a scheduled opera-

(Continued on page 93)

TABLE I

Comparison of Various Types of Combination and All-Cargo Planes*

	Future Combination Passenger and Cargo					Future All-Cargo			
	250	500	750	1,000	1,250	6.8	6.2	5.8	5.0
Range in miles.....									
Payload in tons.....									
Total airline operating expense per revenue ton-mile.....	\$.214	\$.164	\$.168	\$.1705	\$.176	\$.1944	\$.1948	\$.2037	\$.2180
Ground handling expense.....	.038	.060	.059	.058	.057	.0800	.0800	.0800	.0800
Total ten-mile operating expenses.....	\$.250	\$.224	\$.227	\$.2285	\$.233	\$.2744	\$.2748	\$.2837	\$.2980

*Adapted from a study by "Aviation."

TWA Is Acquired By Hughes Tool Co.

Hughes Tool Co., Houston, Tex., has acquired control of Transcontinental and Western Air, Inc., it was made known recently. The company, manufacturer of tools for the oil well drilling industry and, since the war's outbreak, maker of aircraft parts and accessories, is headed by Howard R. Hughes, aeronautical engineer and record-holding aviator.

Jack Frye, president of TWA, recently made a plea for more international airlines. Speaking before a CAB hearing on applications for postwar air routes over the North Atlantic, he said that the United States is "large and powerful enough in relation to other countries in the world to support a relatively greater number of international airlines."

Cargoliners Set New Trans-Atlantic Marks

Bearing a full cargo load plus 14 passengers and piloted by Capt. Charles F. Blair, Jr., an American Export Airlines Flying Ace settled down on a field in Foynes, Ireland, recently, 14 hr. and 17 min. after it had taken off from LaGuardia Field, New York. The new time is one hour and 13 minutes better than the previous time.

A few days later another trans-Atlantic flight record was broken by a Trans-Canada Air Lines Lancaster carrying 6031 lb. of mail and 2036 lb. of priority freight, which took off from Montreal and flew to Great Britain in 10 hr. and 13 min. This was one hour and one minute shorter than the previously established time.

Lightweight Wirebound Boxes Tested For Carrying All Types of Air Cargo

Expecting postwar needs of air freight to be heavy, manufacturers of wirebound boxes are reported to be developing lightweight shipping containers to carry all types of cargoes.

Since their boxes and crates it is said can meet the requirements of heavy loads with less weight than many other types of shipping containers, these manufacturers are engaged in research to create a box for almost every type of bulky item.

In one test case at the Package Research Laboratory in Rockaway, N. J., two types of boxes were designed to carry 10 five-pint bottles of acid, one a conventional nailed wooden box, the other a wirebound box. Each, under tests, demonstrated its ability to meet safety requirements, rough handling and other hazards. Because the wirebound box, taking strength from its wire and staples, used much lighter wood, its tare weight was 19 lb., as against the other box's 28 lb.

On air freight costs alone, for a trip from Chicago to Pittsburgh at



Glenn L. Martin Announces New Plane To Match Rail Rates in Postwar Era

"Air Cargo Aid to Trucking"

Cargo planes will not take away much freight from the trucking industry, if and when, air-freighting assumes large-volume proportions, in the opinion of Frank Talbot, who recently became affiliated with West Coast East Freight Lines, Inc., Los Angeles.

"I rather am inclined to the opinion that this newest form of competition in freight hauling will actually benefit the truck lines," Mr. Talbot said. "Just as trucks have made more business for the railroads and as all improvements of facilities for moving goods have always created greater volume for all existing modes of transportation, so air cargo will result in certain benefits to trucking." (Herr)

Seattle Commission Takes Over Airport

Operation of the Seattle-Tacoma Airport has been taken over by the Seattle Port Commission, according to a report from CAA. A \$4,000,000 project, jointly undertaken by the Port Commission and the airlines, may not be carried out until after the war, CAA men believe. (Gidlow.)

The Martin Mercury, a newly developed plane for postwar use, is claimed by the maker, Glenn L. Martin Co., Baltimore, Md., to be capable of competing with railroad coach fares on hauls from 50 to 700 miles. It is a short-range, low-cost passenger and freight plane and has two engines.

Direct flight cost will be 1.15c. a passenger mile, with indirect cost, such as advertising and sale of tickets, bringing the total up to approximately 2½ to 3c. a passenger-mile. Beyond the 700-mile economy range direct flight costs will go up, the company said. Any airstrip now in use for twin-engine planes will be suitable for the operations of the new Glenn Martin model.

A movable bulkhead will assure easy adjustment between passenger and freight loads, the company said. The ship's total cost is expected to be around \$250,000. Its gross weight of 33,500 lb. makes allowance for a fuel capacity of 600 gal. Takeoff horsepower will be 2,100, and normal power 1,700. This will enable the plane to cruise at 254 m.p.h. and to attain a speed of 314 m.p.h., representatives of the company said.

Maximum safety and economy were the principles which guided the company in its one and a half years of research. The new long-wing ship will be capable of taking off on a single engine in case its other engine fails, the company says.

"Flying Trailers" Viewed in Near Future

Postwar possibilities of the airvan or "Flying Trailer," a product of the Van Tuyl Engineering Co., Los Angeles, Cal., which is an interchangeable truck-trailer and airplane cargo fuselage for combined highway-air transportation of household goods, are under consideration by the Bekins Van and Storage Co., Los Angeles.

The airvan can be loaded at a shipper's door and drawn by truck-tractor to an airport, where it is attached to a plane consisting merely of wings, power plant and cockpit with wheels of the trailer serving as landing gear of the plane.

"From the standpoint of speed and cost of operation, by virtue of its freedom from the need for competition with high-speed super-airliners, the trailer carrying aircraft, operating at relatively low speeds, would require only a fraction of the power required for airliners," the engineers say.

A MODERN MANUAL OF MATERIALS HANDLING EQUIPMENT

This is the last installment of Mr. Potts' modern manual of materials handling equipment. It has been published serially in D and W exclusively. Each major type of handling equipment has been named, defined, illustrated, described and its usual applications explained.



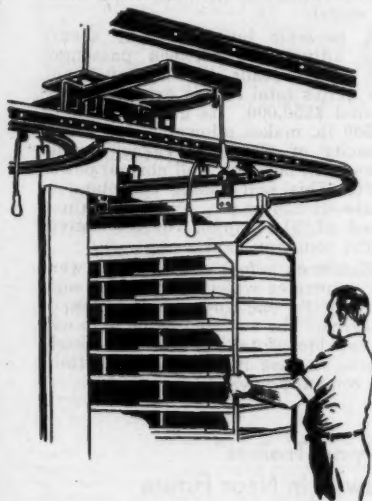
By **MATTHEW W. POTTS**
Materials Handling Editor

All drawings by Harry T. Fisk

Monorail

Definition—A system of overhead trackage of simple rail construction, from which can be suspended various forms of hoists and other overhead carrying devices.

Description—Monorail can be standard I-beams, plain steel bars, or double channel construction; it can be of the pressed steel special U-



Monorail

shaped construction; it can be of a special T or cross section construction. The type of rail generally is determined by the manufacturer, but most all types of monorail systems can be equipped with switches, cross-overs, turn tables or interlocking devices in order for the system to be complete. In a number of instances the rail supports either hoists or trolleys from which are suspended racks hooks or other carrying devices, and these can be hand propelled, or propelled by several different mechanical methods. One method is to run an auxiliary pusher conveyor chain alongside of the monorail, particularly for negotiating inclines. Another system is to equip the rail with an electric trolley system so that the hoist, the monorail trolley or other motorized units can pick up its power at

any point along the rail while traveling. The monorail track is suspended from overhead girders or superstructure and in using the term "monorail" it generally applies to the type of the track supporting the load and not the superstructure supporting the monorail tracks. Monorail track is developed in light, medium and heavy duty, with a wide variety of trolleys, and it is important to consider the right track and the right trolley for the work to be performed.

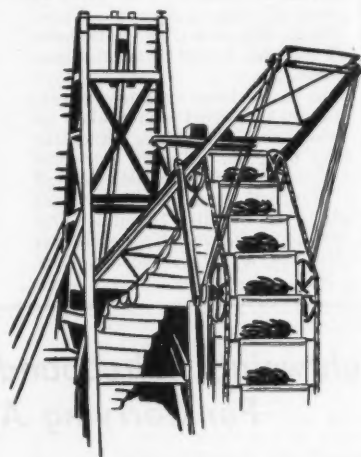
Application—Monorail can be applied to many industrial handling operations in production, on jannanning, painting, baking, core ovens, special process equipment, etc. A simple plain bar track is used in refrigeration coolers for suspending meat and other products. Elaborate systems of monorail construction have been developed for transportation on piers, docks, over coal bunkers, steel storage areas, etc.

Conveyor Sling

Definition—A carrying conveyor and elevator with slings or pockets for supporting the load.

Description—This type of conveyor

also has been called a "banana carrier." It consists of two strands of continuous chain, with cross rods spaced at regular intervals, the cross rods supporting canvas slings or pockets into which the load can be placed. Other materials have been used for these slings or loops, but in the majority of cases, the material is canvas or canvas belting. The conveyor can travel in a vertical plane,



Conveyor Sling

Conclusion

WITH this issue, Mr. Potts concludes the serial publication of his "Modern Manual of Materials Handling Equipment" in D and W.

During the past year and a half he has covered the fundamental design and application of the principal types of equipment for the handling of bulk and packaged materials in their fundamental design and application. The principles involved in this type of equipment apply to other units not generally considered as materials handling equipment, such as automatic bottle washing machines, automatic plating machines, fillers, sealing machine, grab buckets, excavating machines, bulldozers, snowplows, etc. Strictly speaking, such units really are materials handling equipment.

However, if Mr. Potts has omitted, inadvertently, any particular piece of equipment in which our readers are interested he will be pleased to have it directed to his attention, so that it may be noted and, possibly, covered in some future issue.—The Editor.

then in a horizontal plane, and then again in a vertical plane if desired. As the loads pass from one turn to another, they are rolled into a new position in the canvas sling, but are not discharged. Because of its construction the conveyors can be run in reverse directions and, therefore, can be used for loading or unloading vessels. The supporting frame depends entirely upon the application of the unit. The one shown in the sketch is unloading bananas from the hold of a ship. The size of the package that can be handled is limited by the depth or size of the sling, and these units are best suited to the handling of uniform shaped packages, or within a limited range of sizes. These units can be mounted in a fixed position or on movable support frames, particularly if being used for ship unloading.

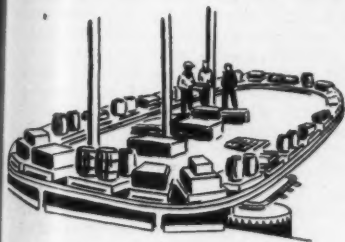
Application—This type of conveyor

is generally used for the handling of cargo to or from shipside and out of the hold of the vessel, but it also has had application for handling materials in festoons as well as packaged materials on industrial operations.

Carrousel Conveyor

Definition—A form of apron conveyor which travels in a complete circuit, generally on a horizontal plane.

Description—Carrousel conveyors are sometimes referred to as carry-all conveyors. The conveyor consists of a continuous system of chain with trailing dollies, fixed platforms,



Carrousel Conveyor

aprons or other carrying surfaces, travelling in a complete circuit so that material placed on the conveyor will continue over a definite line of travel until removed from the conveyor. In some forms, the conveyor is built like an apron conveyor with cross pieces, but since the conveyor must go around curves these cross pieces are tapered at one side. In another form, the conveyor surface is overlapping discs of metal so that the conveyor can turn either to the right or the left. Carrousel conveyors also have been built with individual trays mounted on the chain or trailing on casters, being attached to the chain with a pivot link. Some of these units travel not only in the horizontal plane, but also up and down inclines. The use of the word "carrousel" is to indicate that it is carried around and around.

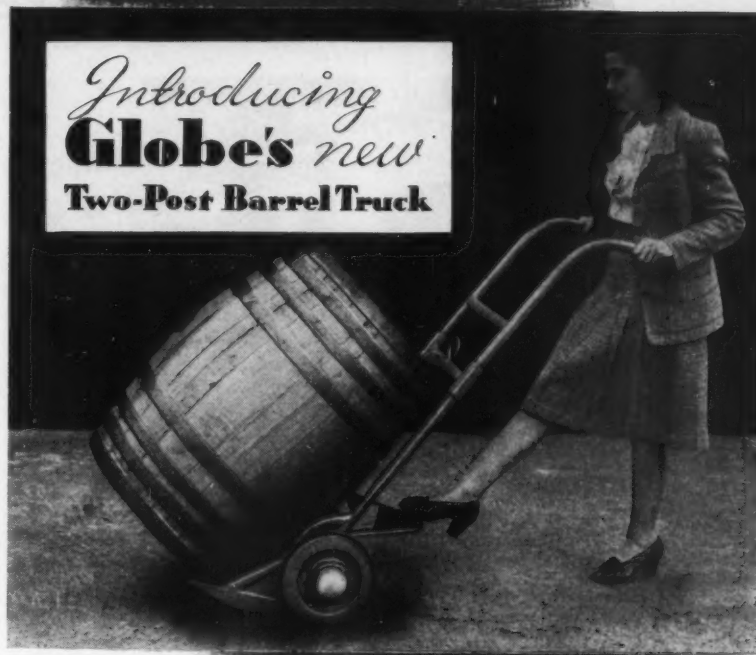
Application—This type of conveyor have been used extensively in canning plants as a work table, in bottling plants, in foundries for the handling of flasks and in assembly plants for the handling of parts to and from the sub-assembly lines and the main assembly line.

Demountable Bodies

Definition—A system of unit containers that can be used on freight cars or motor haulage units or both.

Description—Demountable bodies have been made in a wide variety of sizes and with various types of construction. They have also been designed with different systems for loading and unloading to and from the transportation vehicles. In the case of demountable bodies which are used with railroad cars, the construction has generally been too heavy, which necessitates the use of overhead cranes for loading and unloading, although some have now been developed which can be rolled easily or

(Continued on page 96)



Introducing Globe's new Two-Post Barrel Truck

THIS new Two-Post Barrel Truck by Globe is the latest, most economical solution to your handling problems. Carefully engineered and sturdily constructed, it operates more easily than any other truck on the market.

Self-loading and unloading, it will handle all sizes of drums, barrels and both small and large tierces as well as flat boxes, yet only one man is required in its operation. To load—place the truck against the barrel, drop the chime hook and, placing a foot on the bar, pull down on the handle. Unloading is just as easy.

This truck, when set down on the scale, leaves both ends of the barrel free for easy marking. And it parks barrels flush against one another to save valuable storage space. Upright when not in use, these barrel trucks nest compactly in small space. Floor-saver wheels and perfect balance of the load assure easy rolling and prevent undue operator fatigue.

Your man on the floor will like this new method of handling barrels. You'll like it too for the savings in time, labor and floor space it offers. Write today for full details.

Patented and other patents pending.



THE GLOBE COMPANY

4000 PRINCETON AVENUE

CHICAGO, ILLINOIS

30 years of serving the meat packing industry with expertly designed equipment

Use of Conveyor Permits Uniform Dipping Of 4500 Spark Plugs Per Hour



The conveying mechanism shown in the illustration is a compact unit capable of dipping spark plugs at the rate of 4,500 per hour.

THE Corcoran Brown Lamp Works, Division of Auto-Lite, Cincinnati, O., selected a plastic coater manufactured by the Youngstown Miller Co., Sandusky, O., for melting and dipping the ethyl cellulose used in coating its spark plugs. This forms a tough, water-proof, corrosive resistant coating which protects the part until it is used. When the need for protection has passed, the coating is quickly and easily removed by slitting it and stripping it from the part.

The company's engineers designed the conveyor shown in the accompanying photograph. An operator hangs six plugs on each cross bar. After being immersed in the dip compartment of the plastic coater, the plugs are returned overhead to the end from

which they start. This system permits the uniform dipping of 4,500 plugs per hr.

Indirect heat is employed. This enables the melting of 100 lb. of plastic per hour without danger of breaking down the ethyl cellulose by excess heating. Thermostatic control is maintained over both the heat exchange medium and the plastic to insure that neither rises over its maximum allowable temperature. The plastic is melted and preheated to proper temperature for dipping before entering the dip tank section of the unit. Extremely close control (2 deg. F. maximum variation) and uniformity of temperature is achieved with remarkably low heating surface temperature.

The solid plastic is introduced at the loading end of the tank and reduced to liquid at the right hand end of the heating pads. The temperature of the liquid is raised to the dipping temperature by flowing over and between the pads to the left hand end of the unit where it is picked up by a plastic pump immersed in the liquefied plastic. The pump delivers the plastic into the dipping compartment at such a rate as will maintain an overflow over a weir located at the right hand end of the dipping tank. The overflow is reheated by passing under the dipping tank over the reheating section of the heating pads and to the pump again. This plastic movement gives several needed effects:

- (1) The film which forms on the dip tank surface exposed to the air is continually removed or prevented from forming because the surface is in steady motion in the direction of the weir.
- (2) Bubbles, which may form in the ethyl cellulose due to the immersion of the part to be dipped, are continuously removed over the weir.
- (3) The temperature of the plastic at the point of dipping is maintained absolutely uniform, resulting in a standard quality of coating at all times.
- (4) The level of the dipping surface is maintained without variation, a feature which is necessary for automatic conveyor handling. The weir is adjustable so that the level of the dipping solution may be controlled for various sized parts.
- (5) Agitation.

The conveying mechanism is a compact unit, the whole assembly taking up much less floor space, it is said, than an installation using the wrapping method for an equal production. An overhead return permits a travel time to allow the plugs to cool before packing and requires a minimum of labor since the persons packing can also remove the coated parts.

Materials Handling Council Formed

Matthew W. Potts, materials handling consultant, materials handling editor of *D and W*, technical consultant for the Bureau of Supplies and Accounts, Materials Handling Section, Field Operations Branch, U. S. Navy, and member of the executive committee, materials handling division, American Society of Mechanical Engineers, has formed the International Materials Handling Council in conjunction with founder members. The Council, it is understood, is being organized for users of materials handling equipment. A brochure, Mr. Potts states, is being prepared outlining the purpose and functions of the Council, and should be ready for presentation to the public within the near future.

X-Rays and Conveyors

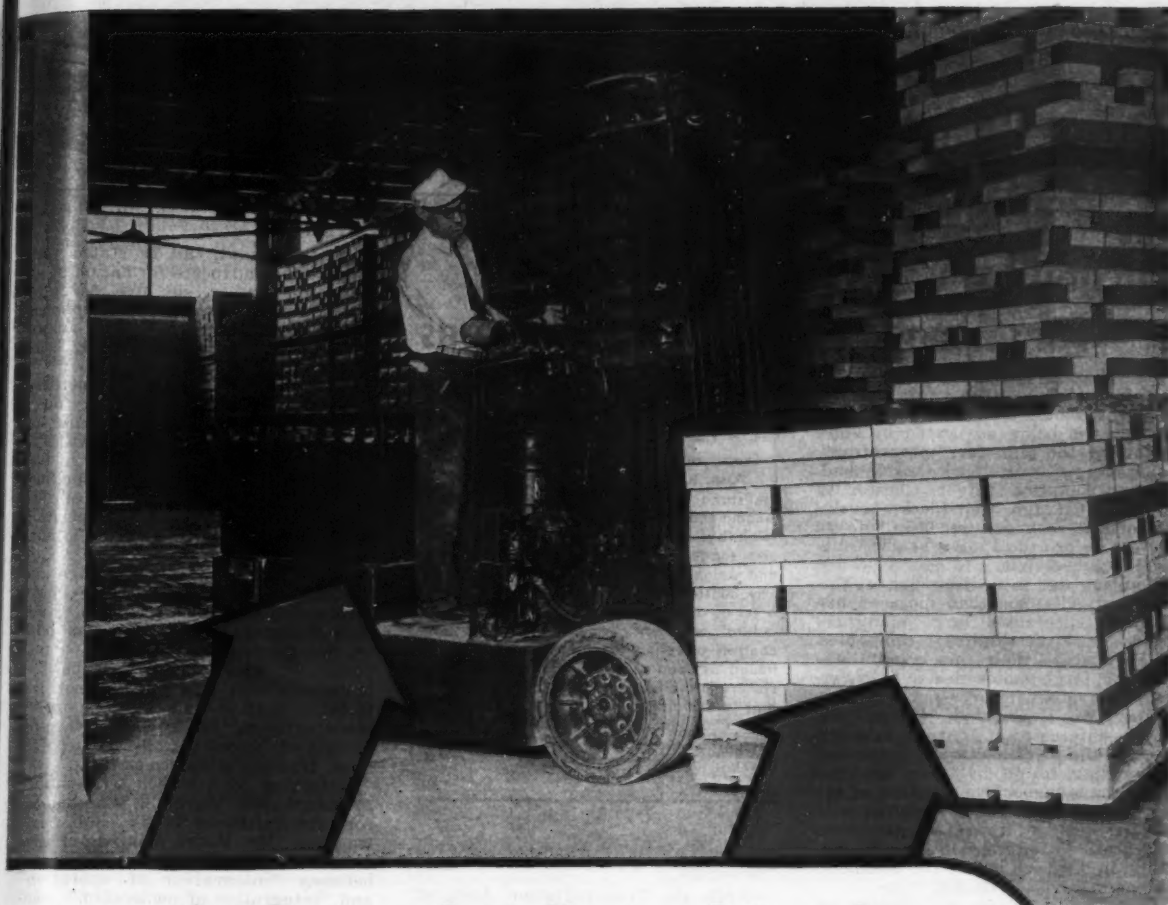
Shells and rocket projectiles now are X-rayed on a conveyor-belt system to assure packing of the explosive, the Eastman Kodak Company revealed recently in Rochester, N. Y.

The company made the disclosure as it announced shipment of more than a ton of its X-ray film for Texas, Kansas and Tennessee ordnance plants using the new X-ray system, which permits rapid sequence exposures. The film is developed on a straightline production basis and is examined before shipment of the shells to prevent defectives from reaching combat troops. (Toles)

Tool Engineers In New Quarters

The American Society of Tool Engineers has established its national office in the Penobscot Building, Detroit 26, Mich. The consistent growth of the Society since its founding in 1932, until it now numbers more than 16,000 tool engineers in its membership, has resulted in the expansion of its service facilities to an extent making necessary this change from its present location, Adrian L. Potter, executive secretary, said.

In addition to the staff necessary to service the members affiliated with 66 chapters in the United States and Canada, the new offices will house the editorial staff for the "Tool Engineer," official Journal of the Society.



Exides and Palletized Loads... a team that keeps production moving

MUCH of the vast tonnage, that's rolling over rail and highway, received its first ride—and many following ones—as palletized loads, on electric industrial trucks powered by Exide Batteries. It's a result-getting combination... an efficiency team that helps to speed up production by cutting corners in materials handling.

To maintain the faster, steadier pace that palletizing makes possible, batteries must have abundant power and endurance. That Exide Batteries have plenty of both is amply proved by their widespread use in shipping and receiving departments, in warehouses, and on miles of loading platforms throughout the land. And wherever they are used, Exides are performing with dependability, long-life and ease of maintenance.

Write us for a FREE copy of the bulletin "Unit Loads," prepared by the Industrial Truck Statistical Association. It tells how to cut handling costs up to 50%... covers latest developments in materials handling... and includes actual case histories.

**SUPPORT THE 6th WAR LOAN
LEND OVER HERE, TILL
IT'S OVER, OVER THERE**



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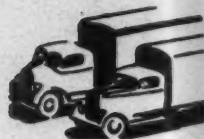
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D and W, December, 1944—41

Motor Cargo ...



'Integration' is Just Another Word For 'Monopoly', Truck Official Warns

A federal law calling for removal of private motor truck fleets from the highways is being advocated by supporters of the plan for "integrating" ownership of rail, truck, water and air transportation systems, Chester G. Moore of Chicago, well known trucking official, charged recently in an address before the Junior Traffic Club of Milwaukee, Wis.

Pointing out in a discussion of the "integration" plan that most of his hearers represented large manufacturers or distributing companies which operate their own small, medium or large motor fleets, to carry their own products over public rights of way, Mr. Moore said, "I think you may be interested in knowing how far some of the proponents of integration are willing to go in their thinking about the transportation system of tomorrow. A significant revelation was made recently by H. M. Lull, executive vice president of the Southern Pacific Lines, in a speech before the Southern Shippers Advisory Board.

"After announcing his support of the integration plan, Mr. Lull listed as a 'fundamental requirement,' and I quote here, 'the elimination of the private carriage of articles of commerce by the owners thereof, except in certain cases where such elimination is not practicable'.

"Think of it! Mr. Lull and other advocates of integration who share his views would have Congress enact a law which, in effect, would say to the citizens of the United States, 'From this day onward you are prohibited from loading your own products on your own trucks and hauling them on the highways of the United States'.

"You people in the transportation business, either directly or by virtue of being dependent upon transportation for distribution of your products, are confronting a great many problems and not the least of them is this question of integration.

"This idea can't be dismissed as the casual dream of a starry-eyed thinker carving out a place for transportation in the brave new world everyone is talking about. Nor is it just another example of 'post-war planning'. No. This program is being promoted by highly realistic people who know what it is all about; who have definite ideas about what they want, and who intend to have their way. Don't have any illusions about that."

Pulling no punches in an analysis of the "integration" plan, Mr. Moore, who is secretary of the American Trucking Assn., Inc., and chairman of the board of Central Motor Freight Assn., Chicago, declared that the word

ATA Recommends

Executive Committee of American Trucking Assn. has (1) approved for present-day use standards of vehicle sizes and weights recommended by National Interregional Highways Committee in report to Congress and suggested a set of more liberal size and weight specifications as basis for highway construction in the future; (2) passed a set of recommendations to the effect that federal emergency agencies and wartime controls affecting transportation be discontinued as soon as practicable; (3) set machinery in motion to urge upon the President that in deciding on any future appointments to ICC he should give consideration to a person or persons familiar with problems of trucking industry.

"integration" is just another word for "monopoly."

While the Transportation Assn. of America, chief advocate of the integration proposal, is "presumably an unbiased organization dedicated to improving our transportation system," he asserted, "actually there is good reason to think it is a front for the railroad and financial interests seeking to gain control of all forms of transportation."

"Let's strip the sheepskin off this wolf and see what the creature really looks like," Mr. Moore continued. "What the proponents of integration

claim they want, can be stated very simply; they advocate formation of an indefinite number, say five, seven or eleven, transportation companies, which would control, in their areas, railroads, airlines and trucking companies.

"They want to wipe out competition between types of services. They don't want trucks competing with rails, or waterways with rails. They want to wrap the whole deal up into a few packages and wipe out all competition, except that between for-hire carriers and private carriers and competition between these transportation companies located in various sections.

"Stripped of all fancy verbiage and fine-sounding philosophy, we have here a simple monopolistic idea. Railroad financiers, who missed the boat on the development of motor transportation; who came in late on bus transportation; and who did not get to the airport on time to get in on air transportation, are now entertaining visions of themselves as masters of huge transportation companies."

Referring to a speech by the vice president-elect, Harry S. Truman, before the Baltimore Traffic Club, some time ago, Mr. Moore pointed out that Mr. Truman had drawn a distinction between "integration of operation" and "integration of ownership." Senator Truman had argued, Mr. Moore said, that integration and coordination of modes of transport would result in improved service and reduced cost to the shipper and, therefore, would be desirable. But it does not follow that such integration can be achieved through integrated ownership only, Mr. Moore said. The Senator in his talk had pointed out that we might need more transportation enterprises.

"Like Senator Truman," Mr. Moore (Continued on facing page)

Synthetic Tires Require Greater Care Than Natural Rubber Ones, ODT Says

Synthetic tires and tubes on commercial vehicles will have to be used and conserved with greater care than is usually given natural rubber tires, W. J. Cumming, chief maintenance section, Office of Defense Transportation, warned recently.

"Because of limited supplies of tires and tubes, commercial motor vehicle operators will have to be additionally careful of synthetic tires in order to get the full mileage being built into this new product. They are certainly sensitive to abuse and handling and for this reason their care and use must be most carefully watched.

Drivers and loaders will have to be impressed with the fact that heat from any source is destructive to these tires

and their tread stock is not as resistant to cuts and tears as is natural rubber. Overloading, high speeds, and underinflation all tend to build up heat.

"To avoid a lot of blowouts and consequent layup of equipment, truck operators ought to school their operating personnel in tire and rim associations' recommendations on inflation pressures, loading and speeds. Attention must be given to the proper lubrication of tubes and insides of casings with recommended soap solutions. The same applies to the breaking in of new tires, to rotation and mating of dual tires to frequent correct inflation when tires are cool, and retreading at the proper time."

continued, "I believe that the basic error in the proposal of the Transportation Assn. of America is that they are confused by the distinction between integration of service and integration of ownership. Operators of motor transport have long favored closer relationship between rail service and highway transportation, just as, today, we are working for a close relationship between air freight and motor carriage.

"We have had little or no success in trying to establish unified truck-rail service, but, in contrast, we are making definite forward strides in our relationship with the air freight people. As chairman of the special committee from ATA, working on this project with the air lines, I can assure you that their attitude is most progressive and open-minded. This, I think, is to be expected, since the newer forms of transport are certainly less hidebound, less hedged in and circumscribed by tradition and convention, than are the rails."—(Slawson)

Labor Dispute Certified on Coast

Two hundred member firms of the Truck Owners Assn. of California, and about 500 employees of the Teamster's Union (AFL) are principals in a dispute that has been certified to the War Labor Board. Chief issue in the controversy are hours, vacation, union membership, loading and unloading. (Gidlow)

Function and Design Of Postwar Trucks

POSTWAR trucks are going to disappoint carriers who expect "dream designs," and futurama attachments such as having a unit included for hot coffee or cold drinks operated by dashboard button. But carriers who want practical innovations will welcome the new trucks, Robert Cass, chief engineer, White Motor Co., pointed out at a recent "Information Please" session of the Pennsylvania Motor Truck Assn. at Pittsburgh.

Instead of emphasizing style of trucks and style only as some advertisers have done, we must first stress "functionability," even if it does make design lines look severe, Mr. Cass said.

Secondly, Mr. Cass said, the war effort still makes it impossible to tell when newly-designed trucks will be marketed, and timing of their production may influence greatly features of design.

Design, Mr. Cass said, must consider the driver and his cab. Three major things concern the driver: (1) his seat comfort; (2) his vision for safety; (3) ventilation. These features are hard to design, because people differ as to what is most comfortable, and the many types of service for which trucks are used creates dif-

ferences in thinking, particularly regarding seating and ventilation.

How much noise can be subdued, Mr. Cass stated, will depend on what insulation materials have become economically practical. He added, there is no standard available for comparing different types of seats and cushions.

Truck cabs, Mr. Cass continued, can't be standardized so easily as airplanes. If wave lengths can be allocated, however, two-way radio systems are likely for truck fleets.

Engine improvements on the new trucks, he said, will include continued use of aluminum pistons with extruded or forged pistons possible. Valves will be liquid-cooled as in airplanes. Six years' experience shows the higher initial cost of liquid-cooled valves is of no importance compared with the longer time they will wear.

More truck engines, Mr. Cass stated, will be equipped with zero lash tappets because they eliminate valve lashing. Simple, properly-hardened crankshafts and, operating on them, precision-type bearings, possibly improved by new war techniques in plating, will be used. Copper-lead or silver tri-metal bearings promise longer

(Continued on page 93)

Wherever they are— highway transport is on the job

After cargo trailers like this one have left our production line we don't know where they report for service. Like all good soldiers they go where the armed forces need them most. But



whether you find them in France, the South Pacific, or U. S. A. training areas they are helping to prove something that every good truck or van operator knows by heart — HIGHWAY TRANSPORT IS IN A CLASS BY ITSELF FOR FLEXIBLE, ADAPTABLE DELIVERY OF GOODS.

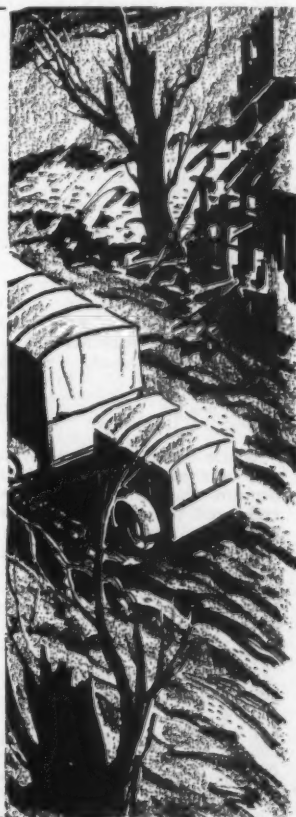
What is true in war is true in peace—and after Victory, Gerstenslager products will still be helping to prove it.

The GERSTENSLAGER Co.

WOOSTER, OHIO

Established 1860

TRAILERS AND CUSTOM-BUILT BODIES FOR VANS AND TRUCKS



Analysis of Readers' Letters On Distribution

OF the letters received by *DandW* commenting on the editorial "Basic Needs for Better Distribution," published in the August issue, 51 per cent were from manufacturers; 9 per cent from wholesalers; 3 per cent from carriers; 25 per cent from warehouses, and 12 per cent from miscellaneous sources.

The letters from manufacturers were 89 per cent in favor of, and 11 per cent opposed to, the recommendations proposed, namely, (a) broader concepts of distribution; (b) simplification and standardization of methods and practices for more efficient and economical distribution; (c) establishment of a National Institute of Distribution by industrial and mercantile associations for cooperative action to implement the first two points. Letters from wholesalers were 78 per cent pro and 22 per cent con. The carriers were 100 per cent pro. Warehousemen were 88 per cent for and 12 per cent against. Among the miscellaneous group 92 per cent were in favor of the suggestions and 8 per cent were opposed.

It should be noted, however, that in nearly every instance the opposition expressed was in part only. The writers, in most instances, were concerned largely with methods of achieving the objectives suggested rather than with the principles involved.

Letters from manufacturers have been classified by products and represent 33 different categories as follows:

1. Mines and quarries. 2. Paper and paper products. 3. Air conditioning equipment. 4. Processed foods. 5. Die castings. 6. Materials handling equipment. 7. Mill supplies. 8. Drugs and chemicals. 9. Power plant equipment. 10. Elevators. 11. Packers. 12. Office equipment. 13. Shoes and leather goods. 14. Sporting goods. 15. Radio. 16. Wire products. 17. Paints and varnishes. 18. Hardware. 19. Roofing and building materials. 20. Electrical goods. 21. Packaging materials. 22. Glassware. 23. Printing and binding. 24. Humidity control equipment. 25. Musical instruments. 26. Automotive manufacturing. 27. Textiles. 28. Soap products and toilet articles. 29. Tobacco products. 30. Cotton and woolen goods. 31. Contractors. 32. Oil refineries. 33. Fire fighting equipment.

Letters from wholesalers, which term includes jobbers, brokers and commission merchants, represent eight major classifications:

1. Perishable foods. 2. Paper and paper products. 3. Processed foods. 4. Chemicals. 5. Wines and liquors. 6. Seeds, garden supplies. 7. Mail order houses. 8. Hardware.

While carriers by rail, water, highway and air contributed to the symposium, the number representing the rails and the waterways were in the minority. Private carriers, of course, are not included in this classification, only common and contract carriers.

Three branches of the warehousing industry are represented in the warehouse classification, namely, merchandise, cold storage and household goods.

Among the groups listed in the miscellaneous classification are the following:

1. Traffic consultants. 2. Chambers of commerce. 3. Publishers. 4. Trade associations. 5. Insurance companies. 6. Horticultural nurseries. 7. Cooperatives.

A number of suggestions were made

by many of the writers. For the sake of brevity and emphasis we have listed the major suggestions of each group, avoiding repetition as much as possible. These major suggestions follow:

Manufacturers:

1. More intelligent use of traffic men by management.
2. More extensive publicity on the fundamentals of distribution.
3. Less government in business and more business in government.
4. Free and untrammelled competition.
5. Consolidation of transportation facilities.
6. Education of the people, of their legislative representatives and of business men in regard to the fundamentals of distribution.
7. Study of specific distribution problems by regional shippers' advisory boards.
8. Simplification of taxes.
9. Elimination of labor rackets.
10. Re-examination of freight rates and tariffs.
11. Better synthesis of available knowledge.
12. Reduction of costs via standardization and passing on of savings to consumers to increase buying power.
13. Better understanding of how to use public warehouses advantageously.
14. More extensive mechanization of handling.
15. Greater attention to worldwide distribution.
16. The solution can only be found through trial and error plus good old-fashioned horse trading.
17. More intelligent study of cooperative buying and selling organizations.

18. Price and service are the deciding factors.

19. A lot of production problems are yet to be solved.

20. Elimination of pressure groups and lobbying in congress.

Wholesalers:

1. Better protection of perishable foods against weather hazard.
2. Organization of industrial and mercantile groups for cooperative action in the interest of better distribution.
3. More specific information on costs.

Carriers:

1. Quicker and safer schedule deliveries by rail.
2. Closer contacts between shippers and carriers.

Warehouses:

1. Consolidation of Army and Navy handling practices in civilian distribution.
2. More goods for more people at less cost.
3. Not only must distribution be cheaper, it must be better. Perishable fruit must get to the consumer so that it has more flavor and quality, and furniture must get to the consumer at lower cost and in better condition.
4. Warehousemen must become more merchandise-minded.
5. Packaging of many items formerly sold in bulk has had the effect of increasing rather than reducing costs.
6. Better university courses in distribution.
7. Standardization of rail and highway equipment for more uniform handling.
8. Re-examination of freight rates.
9. More direct routing of cars; proper loading and bracing.
10. Greater reliance on free enterprise.
11. Elimination of bureaucratic control.

Miscellaneous

1. Elimination of governmental control.
2. More comprehensive study of labor costs.
3. Less legislation.
4. Appointment of a distribution manager by manufacturing firm to operate in conjunction with traffic managers.
5. Education program by trades and associations.
6. Greater attention to loss and damage problems.

In concluding this analysis, we should like to state that, because of space limitations, it has been possible to publish only a fraction of the number of letters we have received. We regret this exceedingly, and wish to take this occasion to thank everybody who has contributed. Though many letters remain unpublished, many of the suggestions contained in them will be used in one way or another, if at all possible, to further the objective, so overwhelmingly endorsed, which is nothing more nor less than more efficient and economical distribution.

Get a Priority on Post-War Prosperity Through Post-War Reserves

Every progressive management should plan for post-war activity now. This should include an estimate of the outlay needed for deferred war costs, post-war modernization, expansion and promotion, and, if due, the 10 per cent refund on the excess profits tax.

By FRED MERISH

o o o

time to produce and deliver new equipment. Considering the tremendous demand that may be expected, it may be some time after war's end before you get the handling equipment, trucks, machinery, tools, fixtures, etc., that you and thousands of others will need in the post-war period for top-flight operations.

In the Interim

In the interim, how do your books reflect the operation of that old equipment? In most cases it seems to be customary to record only repairs and let it go at that, because the balance sheet does not show the equipment written off. It is "out," figuratively. Reserves have offset its cost. But, today, many overlook an important consideration.

When equipment is written off the books, depreciation charges covering it no longer appear in costs. This doesn't happen so often in normal times because replacements are usually purchased by the time the old equipment is written off and this automatically opens up new reserves so that a depreciation charge is continued in costs. But, what is happening today?

Equipment Write Offs

Equipment written off during war years can't be replaced in many cases. No depreciation charge is entered in costs although your customers get the use of your machines and trucks the same as before the write-offs. Under the circumstances, your prices are too low; for in most instances you are required to maintain the same prices as formerly. However, in cases that show additional profit relatively few firms set aside the difference for post-war expansion, modernization or promotion. This is where post-war reserves come into the picture. They assure you something "in the kitty" when the post-war period arrives and you are able to buy new equipment and need funds to invest in the necessary promotions that will get you your share of the profitable post-war business.

In the meantime, your selling prices cover these reserves. The sum to be credited depends upon your post-war plans. It will differ with the business so we cannot give specific coun-

sel here but venture to believe it serves a useful purpose to direct attention to the necessity of taking action along these lines at this time.

Reserves and Taxes

Reserves do not represent actual cash, some will contend, so we may set aside reserves for post-war operations but not have the money to finance them. True. Reserves are not necessarily cash. However, if properly handled, they should increase your bankroll. Their purpose is to provide recordings to substantiate tax deductions for depreciation and to see that your costs include adequate charges for depreciation and other contingencies pertaining to operation.

You may have \$50,000 in reserves on your books at war's end and not a nickel in the bank but that is a matter of bad management, rather than a weakness in the practice of reserve accounting. One purpose of this article is to clarify this phase of accounting and to show how this essential may be handled properly at this time when it is so vitally important.

Advantage of Reserves

Some managements seem to have only a vague idea of reserves so we offer this simple explanation. Theoretically, if you buy equipment for \$1,000, and depreciate it at \$100 annually, by charging current profit and crediting a reserve for depreciation, and then include this \$100 in selling prices for the year, which will come about automatically if your sales cost is based on current overhead, you should retrieve the investment in 10 years and it will find its way into your bank account. Then you can take that \$1,000 and buy replacement equipment. Usually, however, the money is deposited with other funds collected, the cash is disbursed as needed, and the recovered investment is not set aside in a separate fund.

Nevertheless, you collect more money from customers by using reserves, even though you do not earmark the piecemeal return of the cost of your depreciable assets. You may freeze this retrieved investment in a fund by earmarking it as such, separating it from your current cash, but such funds, called sinking funds, are usually set aside to reduce long-term obligations. If the cost of sales include post-war contingencies of one kind or another, it may be assumed that current cash will be increased to cover them, provided a business is managed properly.

AFTER the last "all-clear," manufacturers will be ready with many new developments in business equipment, some of them revolutionary in design or application, such as new machines, fixtures, store fronts, even new type buildings and appurtenances thereto, all designed to facilitate the production, storage and distribution of consumer goods at an accelerated tempo after the war. To keep in the "swim," businessmen will have to modernize or go down with the tide. There will be plenty of aggressive competitors willing to make investments in modernization after the war. Now is the time to plan a post-war program of modernization, expansion and promotion. It may be too late when the war is over.

Some managements are thinking about post-war possibilities, some have rather nebulous plans but few have adopted a fiscal program to cover the purchase of new equipment, business promotion and expansion in the post-war period.

One is useless without the other. The financial ability to swing a program of post-war rehabilitation is important. Setting up post-war reserves now is an investment in free enterprise and maximum employment.

Reserves on the Books

Many concerns have reserves on their books, which were adequate in normal times, but are below par today because our war economy has distorted normal business. The first step is to determine where you stand on reserves now, then proceed from there. In some organizations, reserves are just "sleeping dogs," bookkeeping entries charging current profit and crediting reserves. Not much attention is paid to them. In normal times, this could be condoned because the replacement of old equipment went along smoothly enough. When new equipment was purchased, the reserve covering it was closed out and a new reserve opened for the replacement.

From now until stability returns, reserves must cover a wider field. Those who do not make provisions accordingly are not doing a good managerial job.

Some concerns are using equipment now that has been written off the books since Pearl Harbor. Under normal conditions, they would have replaced it. As it stands, they may have to get along with it for some time to come. After the last bomb has fallen there is no assurance that all restrictions will be lifted. Even if they were, manufacturers will need

Post-war reserves are being set up to cover one or more of the following things:

1. **Inventory losses.** These may be caused by price declines at war's end; the disposal of unadaptable, obsolete or excessive war materials; the conversion and salvage of, obsolete deteriorated or otherwise useless non-war materials, frozen during the war.

2. **Losses on accounts receivable.** Credit is based largely on income, hence, many employed at war work are being given credit today. If the income of these debtors is cut or stopped at war's end, the creditors may suffer heavy losses or experience higher collection expense. If directly or indirectly, your wares are being sold to consumers on credit, your losses from this source may be higher after the war and it is wise to "cushion" this hazard now with a post-war reserve.

3. **Reconversion costs.** What it may cost to reorganize and get going on peacetime production again. Reconversion during the post-war period may cost more than the expense of conversion to war production.

4. **Post-war promotional expense.** It will take money to advertise and sell old trade-marks and exploit new products.

5. **Forced obsolescence.** To cover equipment not written off the books, but old before its time, because of improved equipment and products born of the war.

6. **Accelerated depreciation.** Equipment being worked day and night depreciates at a higher rate than equipment under ordinary operation. If rates were set before the production overload, the write-off should be more during the war years. But, in many cases, this excess isn't computable until after the war. A post-war reserve is the adjusting factor.

7. **Decrease in plant value.** This can be caused by reduction in capacity resulting from a drop in volume after the war.

8. **Separation allowances.** Bonuses may have to be paid to employees who are discharged at the termination of the war.

9. **Forced sales.** Equipment bought for the emergency may not be of use after the war and may have to be sold.

10. **Deferred repairs and maintenance.** Deferred because of all-out production. Deferred repairs are always more costly than repairs made immediately.

11. **Amortization.** Some war expansion costs may not be entirely absorbed by war's end.

12. **Renegotiation loss.** The possibility of loss due to renegotiation is a factor with many firms.

Salvage, Plus . . .

Segregation of metals by alloy types, throughout all production stages, is the key to the efficiency of a comprehensive salvage program which recovers nearly 800 tons of scrap metals per month at the Bendix Products division of Bendix Aviation Corp., South Bend, Ind., it was disclosed by H. F. Bundy, salvage manager.

During an average month the plant salvages 100,000 lb. of cast iron; 160,000 lb. of aluminum in 11 different alloys; 35,000 lb. of magnesium in 5 alloys and 15,000 lb. of brass in 3 alloys. Marked containers are used to collect and segregate metals of various alloys—from machines to loading platforms.

Recently broadened to insure total salvage of paper on a "don't burn anything" policy, Bendix Products' salvage program now recovers each month 84 tons of paper, Mr. Bundy stated.

A Current Income Charge

Sound accounting generally demands that current revenue be charged with all reasonably determinable costs and losses fairly applicable thereto. Wartime losses, costs and contingencies should be charged to the war period via the post-war reserve.

Out of 377 concerns queried anent post-war reserves, 255 charged current income, 21 charged net worth, 20 transferred credits from other reserves, and 81 reported no experience. From this you see the practice recommended in this article is prevalent and worthy of consideration.

Not a Hardship

In many cases, these charges to current income are not a hardship. Equipment written off and a depreciation charge for it continued in costs, as mentioned previously, does not reduce profits, yet, provides a credit for post-war reserves.

Many organizations are affecting economies in various ways. There is less sales and collection expense. Overhead per sales dollar is down for those working full capacity. Managements can build up post-war reserves for modernization, expansion and promotion now if they use such savings for setting up reserves.

Some business men may feel that they are earning more today than in pre-war days, taxes considered, but this may be due to lower commercial expense because sales come easier than in prewar days. If you are in that boat, reserves for post-war operation will correct your

vision by bringing current profit in normal zone.

Tax Laws

Tax laws permit deductions only in connection with reserves for depreciation and bad debts. You can't take deductions for post-war reserves. There is confidence in some quarters that Congress may authorize such deductions, consequently, it is advisable to begin such recordings now because they may help you justify a word while tax saving.

Furthermore, many concerns use reserves to keep the value of their net worth at a conservative figure, even though the tax laws do not consider them in calculating tax liability. One organization has issued a balance sheet showing a post-war reserve of \$600,000 to cover a possible loss on inventory after the war.

Every progressive management should plan for post-war activity now. This should include an estimate of the outlay needed for deferred war costs, post-war modernization, expansion and promotion and, if due, the 10 percent refund on the excess profits tax. You may "guesstimate" wrong but a flexible plan is better than wondering what it's all about when the Armistice quits. Peacetime production will come back only gradually.

A Post-War Priority

For a time, demand for new equipment will exceed supply. Those who have written off equipment or who have over-worked equipment not written off, may not be able to get replacements the day the armistice is signed. But the ones who will be served first will be those who can put their money on the line. Post-war reserves will help them to get this priority, and give them a big advantage.

Some businessmen feel that the government may step in and lend them money for post-war operations. From 1933 to 1942, Congress considered 390 bills on behalf of small business but few businessmen have experienced any tangible results from legislative effort in their behalf. War industries may get loans from the government for reconversion but those turning out civilian production had better dig up their own capital by means of post-war reserves.

Use War Bonds

"If post-war reserves help swell my liquid funds now, why not freeze this portion of my cash?" a business executive recently asked. Our reply was this: O. K. Open an account for the desired sum. Call it a fund for post-war promotion, and invest this money in war bonds until needed.

WHEN you analyze the results of business operations, give thought to working capital as well as to sales, profits and net worth. Compare the ratio of working capital from month to month, the same as you compare the trends on sales, profits and

costs. This will keep you posted as to whether the ratio is favorable from period to period.

Adequate working capital indicates that a business is not too heavily mired in fixed assets, that it has not suffered heavy losses

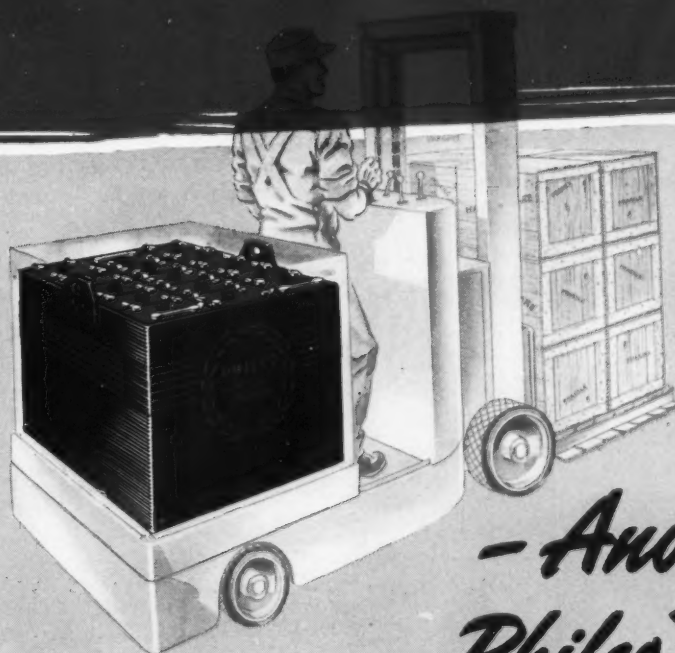
from operations, two main factors that drain working capital in normal times and today, price ceilings and high taxation are additional drains.

Fred Merish, D and W, April, 1944

PHILCO

Again in the News

**THE BATTERY
THAT GIVES
30% LONGER LIFE**



*- Another
Philco "First" -*

Revolutionary new
PHILCO "THIRTY"
WITH 30% LONGER LIFE
RADICALLY CUTS
MOTIVE POWER BATTERY COST!

- ★ **Reduces depreciation and maintenance**
- ★ **Gets more work done**
- ★ **Packs a terrific wallop**

What every materials handling man wants in a storage battery is **packed** into this amazing new Philco "Thirty."

In high capacity, it is **tops** in the field—assuring the maximum tonnage every shift. Even after long hours of heavy work, it has the reserve power to climb ramps and grades, and complete the shift in *high*.

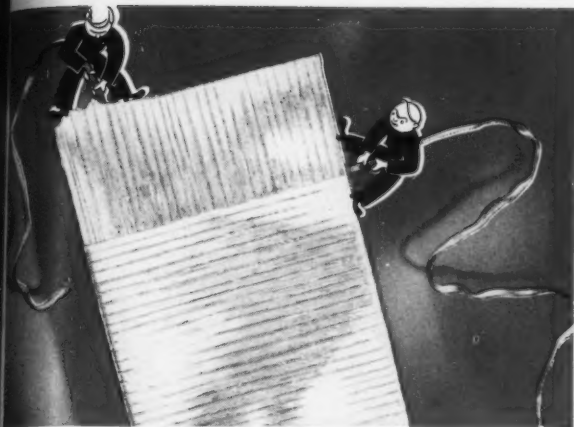
But the feature which sets the new Philco "Thirty"

entirely apart from all other batteries you have known, used, or even heard of before—is its phenomenal long life. **30% longer life**—often more—has been demonstrated time after time in exhaustive field tests.

Here, then, is more than just a new and better battery. Here is a new standard of battery performance—and a new yardstick by which all battery values must now be judged.

That's why it will pay you to get posted on this great new Philco Battery which is now available in certain types and limited quantities. Full information gladly will be sent on request.





REVOLUTIONARY NEW PRINCIPLE OF PHILCO FABRICATED INSULATION*

Only PHILCO "THIRTY" has it!

Here is a brand-new construction principle and an ultra-modern application of a proven insulating material. Both the results of Philco pioneering! This material is fabricated glass tape wrapped around the positive plates in two layers, first vertically and then horizontally. Even a single layer of this glass tape insulation has been found to have better retentive power in holding the active material in the plate, than the standard glass mat! And—of course, the plates of the Philco "Thirty" are further protected and insulated with the time tested Philco slotted rubber retainer and rubber separator.

*Patent applied for



Note sediment



Note absence of sediment

PROVED BY YEARS OF FIELD AND LABORATORY TESTS

As proved in scores of service tests, these unretouched photographs show what happens when a Philco "Thirty" cell (A) and a conventional type cell (B) are tested side by side in motive power cycle service, charged and discharged in series in the same circuit. Glass jars were used here only to permit observation. Note almost total absence of sediment in the Philco "Thirty", while the sediment space of cell B is filled. Cell B has delivered its normal life expectancy and is worn out—while the Philco "Thirty" still delivers over 100% of rated capacity, with a long margin of serviceable life still to go.

YOU GET
IT FIRST WITH
PHILCO

THE CLIMAX OF 50 YEARS OF LEADERSHIP IN BATTERY RESEARCH AND ENGINEERING

The procession of Philco "Firsts", covering the whole field of motive power and stationary batteries, has set the pace in modern battery design. Check the developments, which have contributed most to today's higher capacities, increased efficiency, longer life, and lower cost—the record shows you get it first with Philco.



PHILCO VITRABLOC

A development for telephone, control and standby service, that materially increases battery room capacities.



PHILCO FLOTÉ

The battery that exerted a major influence on the wider use of full float service, by eliminating low cells. More efficient... more economical to maintain.



PHILCO HIGH CAPACITY CELLS

Through modern plate design, Philco showed the way to increased capacity without increase in over-all battery dimensions. A tremendous advantage in many motive power operations.



PHILCO

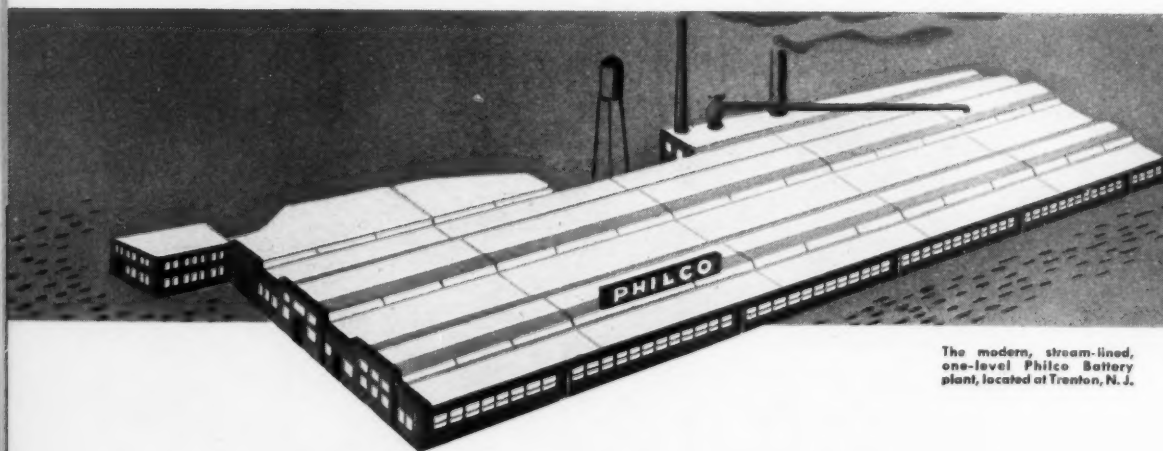
**BUILT FOR MODERN DEMANDS
BY THE LEADER IN
MODERN BATTERY ENGINEERING**

As described in the foregoing pages, Philco is ready, today, with the advanced battery performance and long-life economy you'll need in your post-war operations. With model manufacturing facilities, Philco is ready to produce these superior batteries in greater volume than ever before.

In the complete Philco line are modern

storage batteries for all industrial applications—industrial trucks, mine locomotives and shuttle cars, diesel starting, railroad car lighting and air conditioning, control and power, telephone service and signal systems.

On your next purchase of batteries specify a modern Philco.



The modern, stream-lined, one-level Philco Battery plant, located at Trenton, N. J.

PHILCO CORPORATION
STORAGE BATTERY DIVISION • TRENTON 7, NEW JERSEY

For 50 Years a Leader in Industrial Storage Battery Development

Waterways and Terminals ...



New Ice-Breaker Nearly Ready

Nearing completion at the yard of the Toledo Shipbuilding Co., the \$10,000,000 ice-breaking cutter Mackinaw will be delivered to the U. S. Coast Guard between Dec. 15 and Jan. 1. This is the costliest ship ever built on the Lakes, and will be as powerful as any ice-breaker in the world. The crew of 12 officers and 164 men were assembled during November, and present plans are for the ship to be based this winter at Sheboygan, Mich., near the tip of the lower peninsula and a few miles from the Straits of Mackinac. The Straits, through which the waters of Lakes Michigan and Huron shift all winter long, piling up great windrows of ice, usually represent the first major ice-breaking job when Great Lakes shipping lanes are opened in the spring.

The Mackinaw represents many innovations in ice-breakers. She has the heaviest plates of any ship on the lakes, thickness ranging to 1½ in. She has a propeller at the forward end and two aft on which her Diesel-electric engines can exert well over 10,000 horsepower in pushing through ice and towing, at the same time, the largest freighter on the lakes. She has a beam of 72 ft., is 279 ft. long, and because of her thick hull and heavy engines, a displacement of 5,000 tons when fully fueled. (Kline)

Waterways Operators Form New Assn. "To Promote Harmonious Cooperation"

Ship 'Phone Service To Be Broadened

The Bell Telephone Co. is planning to extend its radiotelephone service after the war to overseas carriers and to off-shore and harbor shipping. F. M. Ryan, radio engineer for the American Telephone and Telegraph Co., told the Federal Communications Commission recently.

Testifying at a frequency allocation hearing, Mr. Ryan said the service which was available to ship tourists in peacetime may be enlarged, if frequencies are available, to provide ship-shore communication with harbor tugs and other craft, and "to aircraft operating over long distance overseas routes."

Wins Shield

The Lake Carriers Assn. at a dinner recently was awarded the United States Coast Guard's security shield of honor, becoming the first inland organization to receive the award. Vice-Admiral Russell R. Waesche, commandant, made the presentation, and Louis C. Sabin, vice president of the group accepted it. (Kline)

U. S. Harbors Obsolete, Harris Declares, Urging Improvement of All Facilities

Calling for an early start on a comprehensive program of port facility improvement in this country, headed by a \$2,000,000,000 project for "lifting the face" of the Port of New York, Basil Harris, president of the United States Lines, warned recently that the United States faced the real danger that her ports may fall far behind those of many other nations in the efficiency of their facilities.

Mr. Harris pointed out that the war had severely damaged the facilities of such cities as London, Le Havre, Cherbourg, Rotterdam, Hamburg and Bremen, and that these ports would be reconstructed along modern lines with the finest and speediest of facilities geared to modern loading and unloading, leaving our ports almost obsolete.

Speaking as chairman of the panel on Development of Trade Opportunities, at the second day's session of the 18th annual meeting of the Propeller Club of the United States

and the American Merchant Marine Conference, in New York, Mr. Harris asserted that this country faced the prospect of severe damage to post-war foreign trade prospects unless such a port development program were launched now.

He contended that this country's present port facilities were of "Victorian vintage," that they would be completely out of harmony with our streamlined merchant fleet after the war, and that they would hamstring a growing foreign trade carried in a speedier shipping industry.

"I am fully aware of the magnitude of such a program and its cost," Mr. Harris said, "and it has been suggested that such cost cannot be levied on the port municipality alone, since a port has a value to the whole country and not to one city. But I firmly believe that a port modernization program must be undertaken as soon as feasible if the United States is to hold its own in world trade and world shipping."

The American Waterways Operators, Inc., has been organized as a non-profit corporation with executive offices at 1319 F St., N. W., Washington 4, D. C. Chester C. Thompson is president and John H. Eisenhart, Jr., secretary. Regional offices have been established in Chicago, New Orleans and Pittsburgh. Other regional offices are expected to be opened in the near future.

The object and purposes of the organization as set forth in its constitution and by-laws are:

"(a) Cooperative action in the consideration and solution of problems of management and policy affecting the operation and welfare of inland waterways transportation (including intracoastal and harbor areas).

"(b) To promote harmonious and friendly cooperation among all waterway operators; and to gather and disseminate information for their benefit.

"(c) To act as statutory agent for its members in Washington, D. C."

The action of the organization will be advisory only. Any waterways operator, whether an individual, firm or corporation in continental United States having some or all of the problems of such operators is eligible for membership.

Seven regional divisions, which will be in charge of a regional vice president, are contemplated as follows:

Regional Division 1. Mississippi, Missouri and Illinois Rivers and tributaries. Regional Division 2. Ohio, Tennessee and Cumberland Rivers and tributaries. Regional Division 3. Gulf Intracoastal Waterways (Rio Grande to Key West, Fla.), including tributaries and connecting waterways and the Mississippi River south of North Baton Rouge, also the Warrior-Tombigbee System. Regional Division 4. South Atlantic Intracoastal Waterways, tributaries and connecting waterways (Key West, Fla., to and including Norfolk, Va.). Regional Division 5. North Atlantic inland waterways, including harbors, lakes, bays and sounds (Norfolk, Va., to Canadian Border), and the western terminus of the New York State Barge Canal. Regional Division 6. Pacific Northwest inland waterways, Canadian Border to Oregon-California State Line. Regional Division 7. California inland waterways, Oregon-California State Line to Mexican Border.

If any member operates in more than one regional division, it will be considered as being identified with the regional division of its operation, which it shall elect.

Distribution Worldwide

• Re-establishment of the principle and practice of equal trading opportunity is the first duty of America's postwar commercial policy.

—Laurence de Ryck
Economics, Foreign Trade Instructor
Occidental College, Los Angeles

Cooperative League of U. S. A. Plans Trade and Credit on Worldwide Scale

The Cooperative League of the U. S. A., at its 14th biennial Congress in Chicago, recently, endorsed a proposal for immediate organization of an international business association to engage in commercial trading operations on a worldwide scale in accordance with the principles of the cooperative movement.

Approval was given also to a recommendation that an international cooperative credit institution be established to assist in financing this international cooperative trade, which at the start, will be limited to dealings in petroleum products, food and related supplies.

Incorporation of the new business is to be effected under the cooperative statute of the District of Columbia and effort was being put forth to have all necessary documents filed on Dec. 21 of this year, a date which marks the 200th anniversary of the start of the consumer cooperative movement.

Outlining the plan for the proposed international venture, Howard A. Cowden, president of Consumers Cooperative Assn., Kansas City, Mo., and chairman of the League's Committee on Cooperative Reconstruction, declared the undertaking is proceeding "on the assumption that the world is one community," as indicated by developments in communications and transportation, as well as the play of economic forces, "which are admittedly worldwide in their effect and influence."

"To fail to enter the international arena in a substantial way commensurate with the great size and the enormous resources of the cooperative movement," Mr. Cowden continued, "is to leave the international field to private profit cartels and to cartels managed by government."

"It is a safe assumption, perhaps, that the matter of import and export will never again be carried on under conditions that prevailed in other days. State trading departments in Great Britain, Russia, and other countries will undoubtedly have a tremendous influence on the way our own foreign trade will be conducted."

"Cooperators know that private profit cartels, left to their own devices, would be the death of political democracy. Nor are cooperators naive enough to believe that world trade agreements in the hands of governments, will be automatic, self-regulatory devices. . . . It is another all-compelling reason why cooperatives must enter the international field in a substantial way."

Another recommendation adopted

called for a study and report "on conditions the cooperative movement may be expected to meet in international trade and transport, including recommendations on how best to meet the dangers inherent either in private profit or government cartels."

American cooperatives, Mr. Cowden revealed in his convention address, have been working closely with the government in its lend-lease program and that the government in its turn has had close relations with the strongly and extensively organized cooperative societies in Europe. A commission was authorized to continue this contact with cooperatives in the devastated countries through the United Nations Relief and Rehabilitation Administration.

Nearly one-fifth of supplies moving in lend-lease has been originated by cooperatives in the United States, Mr. Cowden stated. They have, he said, "furnished lubricating oil, high octane gasoline, lumber, canned foods, dairy products, grain, cotton, wool and many other products vital in furthering the war effort. The cooperatives ad-

Fundamentals of Prosperity

In an address given before the National Foreign Trade Council, Eric A. Johnston, president, U. S. Chamber of Commerce, outlined in three classifications, "Fundamentals for Prosperity." They are:

"First. Absolute necessity for vastly expanded postwar trade among nations. United States and many other countries must raise their sights to what would have been previously considered fantastic heights. If we merely scramble for the old dwindling volume, somebody's going to get hurt—perhaps fatally. In today's enlightened America, too, many people still consider foreign trade as pretty much of a luxury."

"Second. If there is going to be larger volume of foreign trade, we must have more prosperous people everywhere. You can't sell goods to the penniless or the bankrupt. Nor do bare hands produce much wealth. We will not make foolish loans as after the last war. In extending credit this time, we should make sure it will be used to produce jobs and new wealth and thereby provide higher standard of living and means for repayment."

"Third. A strong, prosperous, free America. Above everything else we should promote all domestic measures to encourage high levels of production, employment and wages in America. Our very power and might will help to keep much of the rest of the world afloat."

justed their operations to the tempo of war rather quickly and have done, by and large, a most excellent job in the service of supply."

Meanwhile, an aggressive campaign to expand the consumer cooperative movement in this country was determined on at the Chicago meeting. Keying this project were the words of Murray D. Lincoln, Columbus, O., president of the Cooperative League.

"Our test flight is over," said Mr. Lincoln, in addressing the gathering. "We must put cooperatives into mass production. We must blanket the cities with cooperative enterprises." (Slawson.)

\$54,000,000 Invested On Mexico-U. S. Railway

Don Vicente Sanchez-Gavito, Mexican Embassy counselor, has made known that Mexico is spending \$54,000,000 on railroad modernization program to speed war supplies to the U. S. and at the same time prepare for predicted heavy postwar trade and tourist traffic. Shipments of critical ores, alcohol, guayule rubber and other materials has increased 300 to 400 per cent since Pearl Harbor and it is expected that postwar U. S.-Mexico freight traffic will continue at this rate, he said.

According to the *Chicago Journal of Commerce*, Sr. Sanchez-Gavito has stated that American industry should avail itself of postwar rail opportunities in Mexico by building more plants near the source of raw materials to manufacture products for Latin-America.

Italian Shipments Here Valued at \$1,200,000

Reports from Washington say that Italian merchandise valued at \$1,200,000 and comprising three shipments (largest from Italy since the Allied invasion) recently arrived here, will be sold by U. S. Commercial Co., FEA subsidiary, as Italy's Allied commission agent.

Listed as strategic imports, the goods will be distributed by the FEA as directed by the WPB and WFA, as well as other goods to be sold importers for disposal in the open market, according to the FEA.

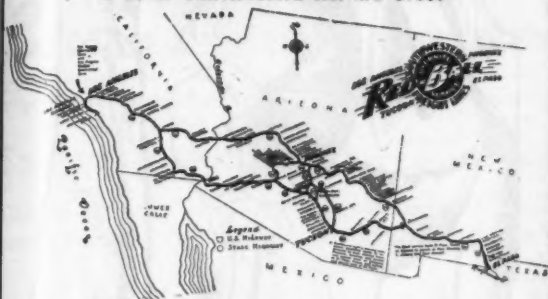
Forecast of 1/2 Billion For Russian Exports

Under normal conditions, Russia will be able to export on an average at least \$400,000,000 to \$500,000,000 in goods annually for 10 years according to E. C. Ropes, chief of the Russian unit of the bureau of foreign and domestic commerce of the Department of Commerce.

Southwestern Freight Lines

**DEPENDABLE INTERSTATE
MOTOR FREIGHT TRANSPORTATION**
Between Los Angeles — Phoenix &
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• International Truck Service is available at branches and dealers in key cities from coast to coast. You'll find that service listed in your classified phone book.

Call the dealer or branch near you and let them help you keep your trucks on the job.

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INTERNATIONAL TRUCKS

TO MEET EXACT TRUCK NEEDS



**PLATFORM and HAND
NOSE TRUCKS for various
Warehouse and Cargo use.**

Write for details and prices.



QS Trucks with round corners, no projecting parts.

ORANGEVILLE MFG. CO.
Orangeville (Col. Co.), Pa.

Fig. 282-4
A popular Warehouse Truck

It's label'd AIR EXPRESS

... but it can't take off
from your
shipping room floor!



Ship When Ready for Fastest Delivery

The end-of-the-day rush at the airport may nudge your shipments out of the race, defer them until a later plane. So phone for a pick-up the moment the label is on ... or before! That's the way to get fastest delivery!



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**A Money-Saving,
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With additional planes now available for all important types of traffic, 3-mile-a-minute Air Express directly serves hundreds of U.S. cities and scores of foreign countries. Thousands of shippers are saving substantial sums through Air Express, employing its economy and efficiency in an ever-increasing number of ways.

WRITE TODAY for "Quizzical Quiz"—a booklet packed with facts that will help you solve many a shipping problem. Dept. PR-12, Railway Express Agency, 230 Park Avenue, New York 17, N. Y., or ask for it at any local office.

AIR EXPRESS

Gets there FIRST

Phone RAILWAY EXPRESS AGENCY, AIR EXPRESS DIVISION
Representing the AIRLINES of the United States

How are you at Chopping Trees?



No, this is no joke. Many businessmen have volunteered to aid the paper shortage by spending vacations from their companies in the timber country, helping out on the man-power problem in the paper pulp industry.

Not that you have the time to do this. Nor that tree-chopping is exactly in your line. But, until the man-power shortage in this vital industry is over, until our armed forces no longer are spread all over the world where food, ammunition and medical supplies must be shipped them in paper protection

wrappers, there is a chopping job you must do. You must chop the use of paper in your business.

Sure, you've done plenty of this in the past months. But right now the need for paper is greater than ever. So the government asks you again to examine paper usage in your firm, see if you can't make even further savings.

And don't forget that baling wastepaper and sending it to a reprocessing plant is a most important part of the paper conservation job.

Remember—
**PAPER IS
WAR POWER**



USE LESS PAPER — SAVE ALL WASTEPAPER

This advertisement contributed by this publication and prepared by the War Advertising Council in cooperation with the War Production Board and the Office of War Information.

SAVE MONEY

To save time and money in handling materials do it on skids or pallets in units of 2 to 5 tons with battery industrial trucks. Send for booklet "Modern Material Handling."

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THOMAS A. EDISON, INC., WEST ORANGE, N. J.

Edison ALKALINE BATTERIES

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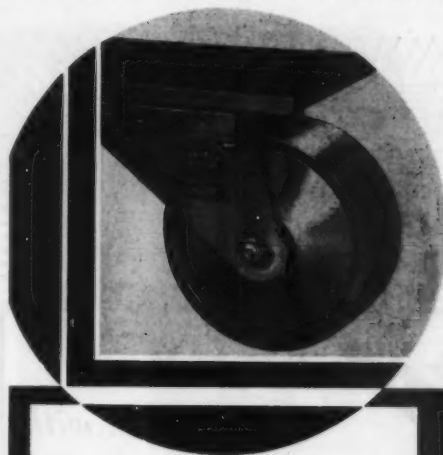
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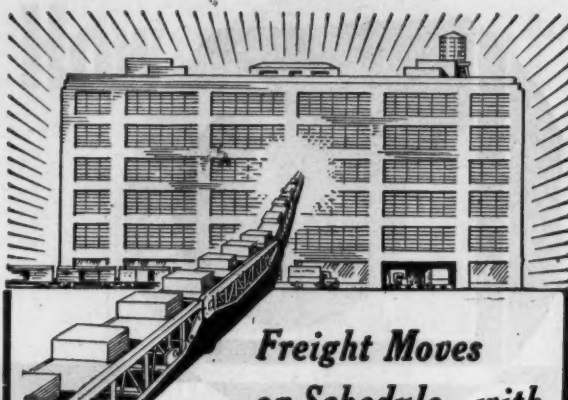
these low-cost floor protection products have been made to give you a long life of efficient, trouble-free service.

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A SAVING AT EVERY TURN



Freight Moves on Schedule...with Conveyors by PORTABLE

Extreme flexibility of use makes freight type Portable Conveyors your best material handling bet. Portables break costly bottlenecks on the loading platform, put every available cubic foot of storage space to work for you. Portable's ability to load and unload, stack, pile and move freight is unmatched for speed, economy and daily dependability.

Freight type Portables can be used in dozens of ways to lick the toughest material handling set-up. Want evidence? Write for complete information.

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THEY'RE TROUBLE-FREE

because of:

- ★ Ball bearing rollers, factory lubricated
- ★ Lattice-truss frame
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Write for data and prices, naming size and service conditions



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LIGHT, MEDIUM AND HEAVY DUTY

GEORGE HAISS MANUFACTURING CO., INC.

Canal Place and E. 144 St., New York 51, N. Y.

Builders of High Grade Materials Handling Equipment for over 50 Years

56—D and W, December, 1944

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EASY-RIDE CONVEYORS



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Wet Flashlight Battery

Rechargeable wet flashlight battery for industrial use built on the principle of the auto wet storage battery, valuable for operations of continued, steady usage has been announced by The B. F. Goodrich Co., Akron, O. The company claims wet storage batteries are more economical than dry cells for volume service, and sells complete recharging equipment, together with tester, as part of its program.

Eighteen months of tests in its own and other large industrial plants proved that the miniature wet battery answers the expendable dry cell problem in many industrial operations, particularly now when dry cells are in critical supply and when long life is important to uninterrupted flashlight service, the company says.

New type wet cell batteries placed in tests in its Akron factories 18 months ago are still giving excellent service, the company reports. The batteries, which give the same light as the industrial type dry cells, are being sold with a six months' guarantee which authorizes replacement if failure is not due to abuse or misuse.

The battery can be used in a standard three or five cell dry battery case with the use of spacer plugs and it has been calculated that users can save approximately \$10 a year on every flashlight maintained, as compared to dry cell operation.

Don't assume you can't get equipment—Inquire.

Materials HANDLING EQUIPMENT



Veteran Expeditors!

Tractor Cranes—Trailer Trucks, Stacking Elevators. Fork Lift Trucks Hoisting Units, etc. for Warehouses, Airport Pier and Yard Service. Literature on Request.



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Ready Power Company	Third Cover
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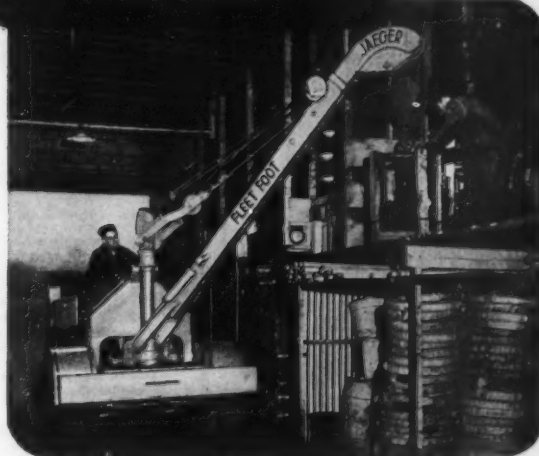
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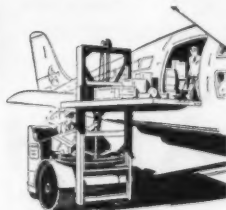
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Telescopic to 12 ft., swings 90° to either side, operates in any position and very narrow spaces.



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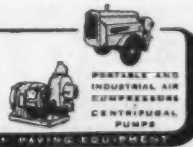
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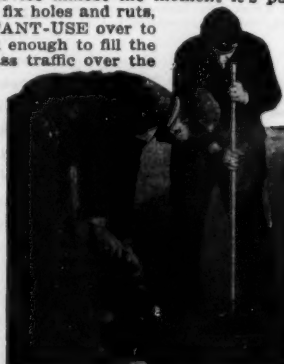
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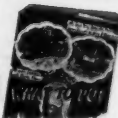
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If you're one of the many concerned with problems of how best to move men, material and merchandise—and bedeviled by cost reduction problems—we think Sedgwick elevators and dumb waiters can help solve at least some of them.

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Flextite, a liquid chemical manufactured under strict laboratory control by Flexrock Co., Filbert and Cuthbert Sts., West of 36th, Philadelphia 4, Pa., used in mixing cement or cement and sand results in a mortar which will do many "difficult and unusual jobs with an effectiveness and speed unmatched by any other material," according to Flexrock. It is recommended for: stopping leaks against hydrostatic pressure; eliminating seepage; pointing up spalled areas; patching and waterproofing pits and concrete pipes; plaster-coating walls; waterproofing below ground or water level; covering exposed reinforcing bars or beams.

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Write today for prices on Mastercraft furniture pads, protective covers, refrigerator pads, floor runners and carrying straps.

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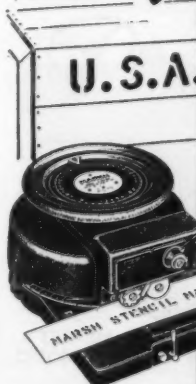
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PROMPT DELIVERY
IN THREE SIZES TO
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1", 3/4", 1/2".

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STOP TIME-LOSSES IN MATERIALS HANDLING

WELD-BILT MATERIALS HANDLING EQUIPMENT in standard types or custom-engineered to your special needs—can add valuable *hours* to your loading, unloading, and handling operations . . . hours now lost in slower handling methods.

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**SABIN
One-Man
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NO MANUAL
LIFTING
NO WEIGHT
TO CARRY



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This amazing truck makes it easy for one man, without helpers, to handle barrels or drums up to 800 pounds. **EXCLUSIVE THIRD-WHEEL FEATURE** provides foot pedal for easy break-over, gives better load support and balance—and permits loaded truck to stand alone.

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This is the LIFT TYPE. Above is shown CARGO TYPE. Also made in TRACTOR TYPE.



Gear ratio changes automatically as required by load and speed—no gears to shift. Just feed the gas and it goes! Low in price—economical—made in 3 types. Send for literature.

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Makers of a complete line of Nutting Floor Trucks, Wheels and Casters

FLOOR TRUCK LEADERSHIP SINCE 1891



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- Capacity: 4000-5000 lbs.
- Deck: Seasoned 1" hardwood
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Siding 10 car capacity, free switching either Santa Fe or South-
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Modern air conditioned offices.

Importance of Heavier Car Loading Cited at Shipper-Carrier Meeting

The heavier loading of freight cars is one of the most important current developments in the field of transportation to rail carriers as well as shippers. H. R. Stringer, Washington, D. C., assistant to the chairman, Assn. of American Railroads, declared in a recent talk before shipper-carrier representatives in the Pacific Gas & Electric Co.'s auditorium in San Francisco.

Mr. Stringer presented figures disclosing that in total carload shipments in 1943 (85,657,000 tons), the average weight per car was 41 tons, as compared with 38 tons in 1941, 36 in 1939, and 35, for instance, in 1929.

He pointed out that there has been a continued increase in the average lading per car during the past 5 years. The resultant substantial saving in transportation, he asserted, is largely because of the continued cooperation accorded rail carriers by shippers and receivers in all parts of the country and to the effective enforcement of ODT Order 18A.

The AAR official declared that if the 1943 average tonnage per car had prevailed in 1944, 809,000 more carloads would have been required to handle the tonnage, or nearly 2600 cars for every working day of the year. On the basis of the average turn-around

time which obtained in 1943, Mr. Stringer declared, this represents 32,400 cars made available for other service. (Herr.)

Warehouse Conventions

THE American Warehousemen's Assn. will hold its 54th annual convention Feb. 16 to 18, 1945, at the Edgewater Beach Hotel, Chicago. Customary sessions of the merchandise and cold storage divisions will be held separately after the opening general session, Wilson V. Little, general secretary, states.

The 25th annual convention of the National Furniture Warehousemen's Assn. will be held from Feb. 19 to 24 inclusive at the Edgewater Beach Hotel, Chicago, according to E. D. Byrnes, executive secretary of the association.

The 14th annual convention of the Mayflower Warehousemen's Assn. will be held at the Statler Hotel, Detroit, Mich., from Feb. 21 to 24 inclusive. E. H. Lamkin, executive secretary has announced. The Detroit Storage Co., headed by A. A. Leonard, former association president, will be host to the convention.

Boxing and Crating Tested Scientifically

Packing and shipping of postwar industrial products will become almost an exact science through "box-and-crate engineering," it has been predicted by the Wirebound Box Mfrs. Assn., Chicago, Ill.

Based on the experience of member firms in providing boxes for millions of tons of war materiel, this prediction has the backing of successful tests under severe wartime conditions.

A full report on tests of various types of containers for overseas shipment of meats is carried in the paper-bound book, of 61 pages and containing several illustrations, entitled "Rough Handling Tests on Boxes—Wood, Nailed and Wood, Wirebound—With Different Kinds of Interior Packing for Export Shipment of Canned Luncheon Meat," put out by the American Meat Institute, Chicago, Package Research Laboratory.

"Box-and-crate engineering" includes planning for shipping before an industrial product leaves the drawing boards.

Olympia Packing Plant

The Midfield Packers, of which H. H. Huber is president, recently established a packing plant at Olympia, Wash., undertaking dehydrating and packing of fruits and produce.

LITTLE ROCK, ARK.



COMMERCIAL WAREHOUSE CO.

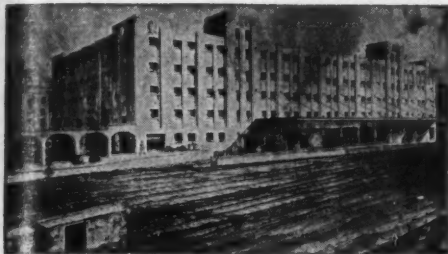
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A Complete Branch House Service - - Fireproof Sprinklered - - Low Insurance - - Private Railroad Siding - - Quick Service.

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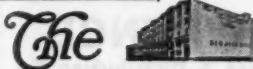
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METROPOLITAN WAREHOUSE COMPANY

Established 1924

Incorporated

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(Tel. Trinity 9861)

FACILITIES—270,000 sq. ft.: Fireproof, reinforced concrete
const.; Sprinkler sys.; A. D. T. alarm service. Ins. rate, 11.7.
Siding on A. T. & S. F. Ry.; capacity, 18 cars; free switching.
Ample Motor Truck Platforms—Sheltered.

SERVICE FEATURES—Pool car distributors. Motor transport
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Now offering space for storage and distribu-
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340,000 Square Feet
New York

117 Pieces Motor Equipment
Chicago San Francisco

Fire Loss Liability

Modern higher courts consistently hold that a warehouseman is not liable for fire losses unless the testimony proves that the fire resulted from the warehouseman's negligence. Furthermore, the laws of the state in which the goods are stored control the legal relationship of the warehouseman with owners of stored goods. And the fact that a warehouseman fails to issue a warehouse receipt will not result in his liability for fire losses.

For example, in *Ayres Textile Co. v. Crowley*, 30 S. E. (2d) 785, S. C., it was shown that the owner of waste stored it in a warehouse which burned and destroyed the waste. The owner of the waste sued the warehouseman and offered to prove that there is a custom in the waste trade whereby when waste is stored in a warehouse, the warehouseman either insures it or notifies the customer that he does not have it insured. Also, the customer contended that the warehouseman was liable because he failed to issue a warehouse receipt. The customer failed to prove that the fire resulted from negligence of the warehouseman or his employees.

The lower court excluded all testimony relating to such custom and usage. The higher court approved the verdict and, in holding the warehouseman not liable, said:

"When parties enter into a contract, all the laws of the State that may relate to the subject matter of the contract are part of that contract. . . . Appellant (customer) was bound by knowledge

LEGAL NEWS

By LEO T. PARKER

Legal Editor

• • •

that he had made no written request for insurance, and there is no evidence of any contract on the part of respondents (warehouseman) to provide insurance, and therefore their failure to issue a receipt could not be deemed to be a proximate of concurring cause of appellant's alleged loss."

Insurance Policy Void

Ordinarily an insurance policy is automatically void and without effect (1) if the insured secured the policy through fraudulent or deceitful statements made in the application; or, (2) if the loss resulted from gross negligence or wilful acts of the insured; or, (3) if the testimony proves that the insured violated the terms of the policy.

For illustration, in *Niagara Fire Insurance Co. v. Lowell Trucking Corp.*, 56 N. E. (2d) 28, Mass., it was shown that a trucking corporation held an insurance policy which insured against loss by theft of merchandise in transportation. The policy contained a clause:

"In consideration of the rate at which this insurance is written it is warranted by the assured trucking company that the trucks . . . used in long distance trucking . . . are equipped with the Babaco Alarm System. . . . It is further warranted by the Assured that each 'Babaco' equipment protecting the cargo compartment shall be in the 'on' position except with respect to any truck . . . which is actually being loaded and/or unloaded. . . ."

One night a truck driver refrained from setting the alarm on the cargo compartment, so that a delivery could be made at a certain stop. The driver was unable, however, to deliver any goods there, and proceeded to a point where he stopped his truck and was examining shipping papers when he was held up by robbers and forced at gun point to let them into the cab and take control of the truck. They drove the truck away, stole the cargo, thrust the driver into the cargo compartment of the truck, and abandoned it. The insurance company paid shipper the value of the stolen cargo and then sued the trucking company to recover the amount thus paid on the ground that the trucking company had violated the above clause in the policy.

It is interesting to observe that the higher court held that the trucking corporation must repay to the insurance company the amount it paid out to the owner of the destroyed goods.

On the other hand, readers should know that an insurance policy still remains in full force and the insurance company remains fully liable although a holder of the policy vio-

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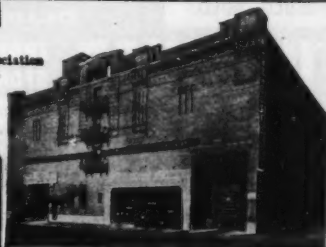
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lates a clause in the policy, provided the insurance company officials or authorized representatives had knowledge that the holder of the policy customarily violated the clause.

Application Denied

Modern higher courts consistently hold that a private carrier's operations cannot be enlarged if common carriers are willing and able to provide satisfactory service.

For illustration, in *Fischbach v. Public Utilities Commission*, 56 N. E. (2d) 162, O., it was shown that the Public Utilities Commission denied an application of a contract motor carrier for leave to amend its private contract permit by adding another shipper. The Public Service Commission held that the available service of common carriers would sufficiently meet the shipper's requirements. The private carrier appealed to the higher court which upheld the decision rendered by the Public Service Commission, and said: "They (common carriers) asserted ability, readiness and willingness to supply the needs of this shipper."

Interstate Employes Exempt

According to leading higher court decisions all persons and employes are exempt from the Fair Labor Standards Act who devote a substantial part of their time to activities which directly affect safety of operations involving transportation of merchandise in interstate commerce.

For instance, in *Levinson v. Spector Motor Service*, 56 N. E. (2d) 142, Ill., it was shown that a "checker," who was employed by a motor carrier to supervise and direct unloading and disposition of incoming freight and the collecting and loading of outgoing freight, sued his employer to recover back and overtime wages under the Fair Labor Standards Act. In refusing to hold in favor of the checker, the higher court said:

"Testimony pertinent to the issue on the merits is that the checker supervised and directed the unloading and disposition of incoming freight and the collecting and loading of the outgoing freight and that he watched the disposition of the weight of the freight in loading. . . . We believe that his (employee's) duties—not the name given his position—are determinative."

Other higher courts have held that loaders of interstate merchandise are exempted from Section 7 of the Fair Labor Standards Act. Also, truck drivers who haul freight in interstate commerce are exempt. See *McKeown v. Southern California Freight Forwarders*, 49 F. Supp. 543; *Overnight Motor Transportation Co. v. Missel*, 316 U. S. 572, and *Magann v. Long's Transfer Co.*, D.C. 39 F. Supp. 742.

Sued for Injury

Modern higher courts hold that a common carrier is not liable for negligence of an independent contractor with respect to injuries to private persons or property.

For illustration, in *Albers v. Great*

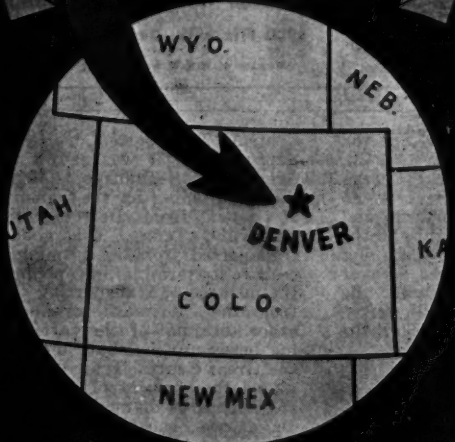
Central Transport Corp., 14 Ohio Supp. 25, O., it was shown that the Great Central Transport Corp. issued its bill of lading for the transportation of goods from Detroit, Mich., to Knoxville, Tenn. The goods were transported from its terminal in Detroit to its terminal in Cincinnati. For the purpose of transporting the goods from the Cincinnati terminal to another terminal of the carrier operating between Cincinnati and Knoxville, the Great Central Transport Corp. engaged the services of a common carrier operator named Dallas. While Dallas was backing his truck to the loading platform of the carrier, operating between Cincinnati and Knoxville, an employee of the carrier operating between Cincinnati and Knoxville was killed. The dependents of the employee sued the Great Central Transport Corp. to recover damages alleging that it was responsible for negligence of Dallas. However, the higher court refused to hold in favor of the dependents and explained that a common carrier is not liable for injuries negligently caused by another common carrier which it hired to transport merchandise.

On the other hand, see *Globe Co., v. Shmitt*, 53 N. E. (2d) 790, where the higher court held that while a common carrier or other employer is not ordinarily liable for negligence of an independent contractor, yet where the work is inherently dangerous, unless certain precautions are taken, such employer is liable if injury results to another by reason of the failure of the contractor to take such precautions.

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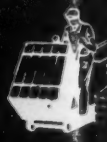
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Common Carrier Negligent

In *Villari v. James*, 38 Atl. (2d) 379, Pa., the owner of merchandise destroyed while in transit sued the common carrier for \$1,057 damages. The counsel for the carrier argued that since there was a special contract between the shipper and the carrier and the shipper had assisted in loading the merchandise the carrier should be relieved from liability. However, the higher court held the carrier liable, saying:

"A common carrier by contract may limit his liability in some respects but he may not thereby relieve himself from the consequences of his own negligence."

Consignor Held Liable

In *Klan*, 18 So. (2d) 50, La., the higher court held that a consignee assumes risk of damage or loss to merchandise shipped f. o. b. the consignee's location. Also, delivery of goods by a consignee under f. a. s., which means free aside ship, relieves the consignee of liability after the goods have been delivered in good order to the dock where the ship is to sail. In such instances, if the goods are lost, injured or spoiled while on the docks of the steamship company or in transit before they reach the consignee, the shipper is not responsible. But failure of the seller to follow instructions of the consignee as to when or how to make the shipment automatically results in the consignee being responsible if the merchandise is lost, damaged or in-

jured before delivered to the consignee.

Purchaser Liable

In *Cotton v. John Deere Plow Co.*, 18 So. (2d) 727, Ala., the higher court held that although a purchaser of merchandise cannot be compelled to pay the seller where the testimony proves that the latter breached his guarantee, yet this rule of law is not always applicable when a person holds a negotiable note purchased from the seller to whom the purchaser gave the note as payment for the merchandise.

In other words, modern higher courts consistently hold that the law writes into a negotiable note the maker's unconditional promise to pay the note to any indorsee in good faith for value before maturity whatever may happen as between original parties to the transaction.

Control Necessary

Modern higher courts hold that a person who hires a truck and its driver is not liable nor responsible for negligence of the driver if he retains no control over the driver.

For illustration, in *Blakey v. Capanna*, 36 Atl. (2d) 789, Pa., a truck owner furnished a truck and driver for hauling materials but retained all power to direct his driver as to the operation of the truck.

The higher court refused to hold the hirer liable in damages for an injury caused by the driver.

Patron Injured

In *Cestari v. Pennsylvania*, 139 Fed. Rep. (2d) 566, a patron fell on a wet and slippery terrazzo floor. He proved that previous to the accident it had been raining and that there was a great deal of rain water on the floor. The lower court held the company not liable, but the higher court reversed the verdict and explained that when the combination of a smooth terrazzo floor with water produces a slippery and dangerous condition it is the company's duty to remedy the dangerous condition.

Also, see *Flora v. Great Co.*, 330 Pa. 166, which involved a fall on a wet linoleum floor. There was testimony that the linoleum became slippery when wet. The court said:

"If a combination of a 'smooth linoleum' with water or snow produced a slippery condition at a place where invitees (patrons) had occasion to walk it was defendant's (company's) duty to correct that condition."

Contract Void

A contract made in violation to orders and regulations of the Interstate Commerce Commission is void.

For example, in *Chicago, R. I. & P. Ry. Co. v. Black, Sivalls and Bryson, Inc.*, 147 Pac. (2d) 455, Okla., it was shown that 49 U.S.C.A. No. 16, paragraph 3(f), stipulates the time limit in which a shipper may file a suit against a carrier for enforcement of an order of the Interstate Commerce Commission for payment of money.

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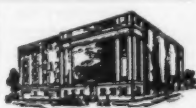
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The higher court held that with respect to reparation awards for freight charges, above the legal rate, no contract is valid which violates the order issued by the Interstate Commerce Commission.

Intrastate Employees Affected by Decision

Under a recent decision by Judge Vincent L. Leibell, in the United States District Court for New York, very large numbers of employees of trucking concerns operating entirely within one state are entitled to receive overtime pay in accordance with the provisions of the Fair Labor Standards Act. The decision was rendered against Comet Carriers, Inc., of 315 W. 36th St., New York City, in an action brought on behalf of L. Metcalfe Walling, Administrator of the Wage and Hour and Public Contracts Divisions, U. S. Department of Labor by Irving Rozen, regional attorney.

The Court held that the Fair Labor Standards Act (Federal Wage-Hour Law) covered employees of a trucking concern engaged in handling and transporting, entirely within the state, materials and cut goods for ladies' coats and suits from the plants of manufacturers and jobbers to the factories of their contractors to be made into coats and suits, and later handling and transporting the garments from the contractors back to jobbers, manufacturers and chain store warehouses.

It was conceded by both sides that

many of the coats and suits handled by employees of the defendant firm were destined for shipment to points outside the State of New York.

The Court ruled that truck drivers and helpers driving trucks across state lines at least one day a week were subject to control by the Interstate Commerce Commission and would therefore be exempt from the overtime provisions of the Act during that week under Section 13(b) (1). However, in this connection, Judge Leibell expressed the opinion that the Administrator's position that employees are not exempt under Section 13(b) (1) of the Act if they devote

more than 50 per cent of their time to work outside the jurisdiction of the Interstate Commerce Commission, "is preferable."

Investigation of the Comet Carriers, Inc. was made by inspectors from the office of Arthur J. White, regional director, Wage and Hour and Public Contracts Divisions. Mr. White stated that the Court's opinion would "bring the benefits of the overtime provisions of the Wage and Hour Law to countless thousands of employees of intrastate motor carriers, particularly the many employees employed by New York garment center trucking firms."

LEGAL

Questions and Answers

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have plenty of money. Your advice will be appreciated. Goodman Warehouse.

Answer: You cannot compel the soldier's wife to pay storage on goods owned by the soldier, unless you prove that the wife placed the goods in storage and consented to pay the storage bills. Also, you cannot sue the soldier unless in opinion of the court you have unusual rights notwithstanding.

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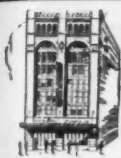
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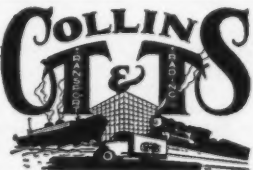


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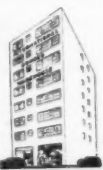
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standing the Soldiers' and Sailors' Civil Relief Act.

In other words, the court has the right to determine whether the suit will be postponed until the soldier returns. In almost all cases the courts have decided to stay or postpone suits of this nature until the members of the military service return and are capable of appearing in court and defending the suits. However, you may add to the accumulated or deferred storage bills 6 per cent interest which the soldier must ultimately pay.

Threat of Suit

Question: Frequently we make contracts to buy certain merchandise which is shipped from other states. Our truck driver hauls this merchandise from railway freight stations to our warehouse. Now, he threatens to sue us for back wages, overtime and lawyer fees under the Fair Labor Standards Act which states that we must pay certain wages. What are his chances of winning this suit? Hahn Warehouse Co.

Answer: He has no chance to win the suit if he hauls goods for you both intrastate and interstate. In other words, if he hauls merchandise for you from one state into another he is under the jurisdiction of the Public Service Commission which takes him from the scope of the Fair Labor Standards Act.

However, if this driver hauls goods for you exclusively in your state then, under these circumstances, he is not within scope of the Public Service

Commission but he is considered by modern courts as handling goods in interstate commerce, because he completes the hauls or delivery of merchandise to you by transporting interstate merchandise from the depot to your warehouse.

Ceiling Rentals

Question: We own an apartment building and desire to increase the ceiling rentals. Our argument is that a few years ago we rented apartments to transits at a much higher price than the present monthly rentals. At this time we can get the high transit rates. Also, how can we eject undesirable tenants? What is your opinion? International Storage, Trucking and Transport Co.

Answer: You cannot at present charge transit rates except for the apartments you had set aside for this transit trade the date the "roll-back" was made effective. The fact that you formerly rented apartments on the transit basis gives you no present rights to increase your rentals.

You cannot eject present tenants unless you prove they are nuisances; or have failed to pay agreed rentals; or you want the apartment for your personal use. But you cannot keep your present residence and, also, occupy an apartment. In other words, you must intend to move into the apartment from which you desire to eject a tenant. In approximately 90 per cent of the suits by landlords for ejection of tenants, the courts have

refused to hold in favor of the landlords.

Goods Sold

Question: About two years ago a woman named Kline delivered goods to our warehouse. We gave her a warehouse receipt in her name, but she did not pay the agreed rates. After duly advertising the goods and giving her proper registered notification of the intended sale we sold these goods in the usual manner. A few days ago a discharged soldier who has been in the Pacific came to our warehouse and demanded these goods. He says his wife did not own the goods but that he owned them and wants us to pay him \$980 which he says the goods were worth. We only received a few dollars less for the goods than our bill and we maintain that he should not have left the goods in his wife's care without expecting some kind of trouble. What do you advise us to do? Security Warehouse Co.

Answer: You should make a compromised agreement with him for the least amount he will accept in complete settlement of his claim. Be sure to put it in writing and have the signatures witnessed by two disinterested persons. The fact that he left the goods in his wife's care does not relieve you from liability unless you prove that the soldier gave his wife authority to act as his agent or representative. In cases of this kind it is bad policy to sell stored goods unless you know to whom the goods actually belong, because under ordinary circum-



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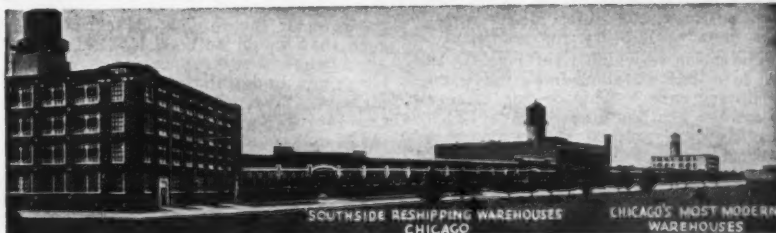
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stances the true owner can sue you and recover the actual value of the goods.

Warehouse Liability

Question—As you know, several states have laws regulating the operation of warehouses. The question has arisen regarding warehousemen's responsibility in the event of loss or damage to stored goods due to their own negligence.

Have you information available covering the angle of whether or not the laws of any state may limit the usual or common liability of warehousemen in this connection? Lamoit Co.

Answer: This question which you present is very interesting. As you probably know for over 15 years I have followed, read and studied every higher court case decided in the United States involving warehousemen. Naturally, therefore, my information has to do specifically with these higher court decisions. I have found no decisions in which the courts have had to consider laws of special nature of the classification which you have outlined, and which relieve warehousemen of liability for negligence.

The cases to which I refer relate to the law that warehousemen must use "ordinary care." This degree of care is defined as that kind of care which the average, prudent and reasonably careful person would use to safeguard his own goods.

In other instances, the courts have held that "ordinary care," as used in

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the laws of the various states, is the care that would be used by the average, prudent and experienced warehouseman under the identical circumstances. This, of course, means that the courts must listen to the testimony and decide whether in each particular case the warehouseman actually used "ordinary care." The word "negligence" means lack of "ordinary care."

Of course by special contract a warehouseman may somewhat limit his liability but he cannot be relieved where the testimony shows that he or his employees were actually negligent in effecting or causing the loss.

I shall watch for new higher court cases on this subject of law, and shall report them in these pages.

Women Comprise 7.9% Of Railroad Employees

"If it had not been for women, the railroads could not operate during the wartime crisis," declared Miss Cornelia Edge, assistant head, personnel supply section, ODT, Washington, in an address at a two-day conference of women railroad executives in Chicago recently.

Two hundred and fifty thousand women are working in the transportation industry of the country, 112,000 of them with Class 1 railroads, the speaker stated adding that women workers comprise 7.9 per cent of railroad employees.

Purchases Hoody

Valentine Brown is now sole owner of Hoody Peanut Products, following purchase on retirement of Glenn Townsend, company head from 1914 to 1943. Mr. Brown has been with the company for 27 years, serving as manager for the past 10 years. (Haskell.)

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Negotiation of a first mortgage loan for \$325,000 has enabled Griswold-Walker-Bateman Co., Chicago warehousing concern, to retire the outstanding preferred stock represented by participation certificates issued to bond holders during reorganization proceedings nine years ago. The stock was called for redemption Sept. 30, at a call price of \$10 per share, plus accrued interest.

Retirement of this stock, an announcement stated, completes the final chapter in reorganization of four first mortgage bond issues, aggregating \$776,500, covering various properties formerly owned by the Griswold-Walker-Bateman Trust. Since confirmation of the reorganization plan by the court nine years ago, all first mortgage bonds have been retired from earnings. At that time each holder of a \$1,000 bond received a new \$600 bond, plus 50 shares of preferred stock with a par value of \$10 per share. Redemption of this preferred stock thus means, in effect, it is pointed out, that former first mortgage bondholders who retained their securities, are receiving \$110 for each \$100 of original bonds. The extra \$10 represents the approximate amount of unpaid interest due at the time of reorganization, according to the statement. (Slawson.)

For Shippers' Convenience, States, Cities and Firms are Arranged Alphabetically

Citrus Growers and Shippers Form
Joint Problems Board for Research

Organization of a Joint Problems Board on Citrus Research, composed of representatives from California, Florida, Arizona and Texas, which will devote its activities to matters of growing, shipping, merchandising and technical development of the industry, was effected at a recent meeting at Phoenix, Ariz.

Regarded as one of the most progressive steps ever taken by the citrus industry, the research board is representative of growers and shippers in the Imperial and Coachella Valleys of California and the Salt River Valley and Yuma Mesa in Arizona, who expect to raise a fund of more than \$200,000 a year for research and sales promotion.

E. N. Chace, former director of the U. S. Department of Agriculture, Fruit and Vegetable Chemical Laboratory at Los Angeles, was named chairman of the research board. Other

members are: Byron Showers, Phoenix; Dr. L. G. MacDowell, director, Florida Citrus Commission, Lakeland, Fla.; W. E. Baier, research manager, California Fruit Growers Exchange, Ontario, Cal.; and William Platt, research Director, General Foods Corp., Los Angeles.

Speeding of greatly needed research, and avoidance of duplicated effort in promotion and merchandising, are two of the aims of the committee," E. J. Mehren, Phoenix, president, Desert Grape Fruit Industry Committee, declared. The board, acting as a central clearinghouse, will keep the entire industry informed on the progress of citrus research experiments being conducted by any organization, public or private, and keep the membership posted, as well, on matters dealing with new ways of shipping, packing, distribution, etc. (Herr.)

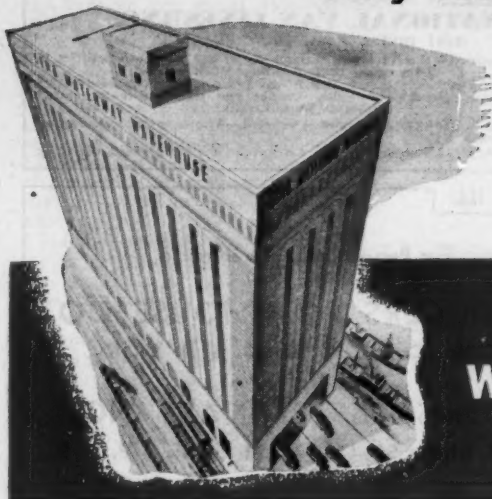
Anti-Freeze

Chemicals Bureau officials have warned that because manufacturers are well advanced in making up the nation's winter supply of anti-freezes on the basis of allocations of alcohols made several months ago, there can be no variation later in the percent-

ages of the various grades that will be available to the public, according to a WPB report. The great bulk of anti-freezes marketed will be based on ethyl and isopropyl alcohols. However, the over-all supply of anti-freeze will be ample for all expected demands, WPB officials said.

D and W, December, 1944—73

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Cost Factors in Distribution

(Continued from page 16)

vise management as to the cost of transportation in your own company? And, incidentally, do you really have all of the facts to enable you to provide the necessary information? If you must frankly tell yourself, "No," then this condition most certainly should give you plenty of food for thought as to the reason the proper cost data are not available to you.

But suppose you can honestly tell yourself "Yes, I do have all the items of cost or transportation at hand." Is it wise to wait for management to question you? Instead of delaying, would it not be wiser to present to management the vital facts before it is realized that you have failed to do so?

Necessary Details

You, as traffic manager, are expected to know more about your job than management knows about it. If your chief executive should ask you what the month's cost of "distribution" might be, could you tell him? If he should want to know the cost of "transportation" for the month, would you give him only that total, or would you include information showing how that total was made up? Would you include information showing how that total was made up of a

certain amount chargeable to production, and so much chargeable to selling, in a manner similar to that of the general sales manager reporting how his total sales figure is made up of specific amounts for each of the major groups of products sold?

It may be, though, that the cost department in your organization is not furnishing you with the necessary details of transportation cost. This could be for two reasons: (1) because you have not made a request for the data; (2) because the cost department does not segregate the items to show the details. If the latter is the real cause, obviously, you are not prepared to supply adequate information that will enable management to know the "actual condition of its business" in relation to the cost of transportation.

Re the Chart

Refer to the chart accompanying this article. It will be noted that it outlines the major points embraced by transportation cost. It is suggested that the chart be studied.

From the source of raw materials, to receiving department, to production line; thence, from production line to stock and shipping room onto the customer—are the main sources of cost of transportation.

From the lower section of the chart it will be noted that although they should be segregated for analysis of cost of transportation, nevertheless (a) freight inwards and (b) materials handling inwards are parts of the cost of production. Also (c) materials handling outwards and (d) freight outwards are shown as sectors of distribution which is a part of the cost of selling. However, items (a) to (e) combined make up transportation cost.

Whether or not this plan meets with the general, current cost accounting theory makes no difference. With the plan as outlined in the chart vital facts pertaining to transportation cost can be assembled to be used in attacking the problem of how to reduce cost of transportation.

Should Discuss Costs

It is further suggested that the chart be studied in relation to your own particular company. Does your organization's procedure provide for the segregation of such major classes of transportation cost as freight inwards, materials handling inwards, materials handling outwards, and freight outwards? Management should be in a position to know the cost of each of these; it may not require any additional information, but at least it should not be given any less.

These costs should be talked over with other department heads: the production manager would be interested in knowing how his part of transpor-

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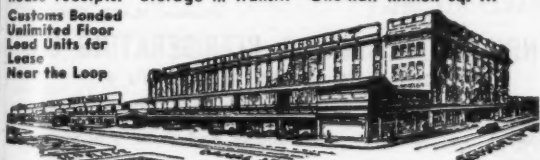
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tation cost might be reduced, thus decreasing his final cost of production; the general sales manager would be delighted if his cost of selling could be lowered by reducing that part of it which is distribution. And none of the others should be ignored. As an example, the advertising manager would be glad to know of ways in which the cost of shipping advertising matter might be reduced.

A wise man once said: "If you do not overlook anything, you yourself will not be overlooked," and this applies to traffic managers as well as to others.

The Broader Aspect

One of the things which traffic managers should not overlook is the opportunity to help reduce cost of transportation. To properly pursue the question, it is necessary to have the

items of transportation cost segregated to provide vital facts. These facts will be needed for use in meeting the intense competition of the postwar period.

Throughout this article stress has been laid on the subject as it applies to an individual industrial organization. However, the broader aspect also should be kept in mind.

Transportation cost is part of the total cost of distribution when considered from the viewpoint of industry as a whole. Taking industry from the over-all angle, on a nation-wide or international basis, then "distribution starts with the movement of raw materials and ends only when a finished product has reached its ultimate destination, the final user or consumer."

Therefore, while transportation cost is only a part, yet it is one of the most important parts of cost of distribution.

Says U. S. Trade Will Double In Postwar Era

Edward M. Bernstein, assistant director of monetary research, U. S. Treasury, at a New York Board of Trade meeting stated that post war world trade, assuming normal full employment, will run around \$80,000,000,000 of which the U. S. will have \$18,000,000,000, or 22½ per cent. This is double prewar trade.

U. S. exports were estimated by Mr. Bernstein at \$10,000,000,000 and imports at \$8,000,000,000, or 80 per cent of export volume, and he suggested that the difference, \$2,000,000,000, each year be loaned on a long-term basis until foreign nations were able to aid themselves and balance trade figures.

Washington Industries Form Association

Merger of two long-established organizations, the Manufacturers' Assn. of Washington and the Federated Industries of Washington, both of Seattle, has been approved.

The new body will be known as the Association of Washington Industries, according to Frank West, manufacturers' group president, and Alex Hay, Federated president. Both organizations have been in operation about 50 years. (Haskell.)

Cargo Loss and Damage Causes Discussed

Excessive cargo losses and damage was principal subject of discussion at a Los Angeles meeting between Shipley Burton, Eleven States Western Conference, and Southern California leaders of the California, Southern California and national trucking associations. Trend was attributed to: Shift of industry from cases to cartons for items previously shipped in heavy wood containers; predominant use of cans instead of glass by fruit, food and vegetable packers; inefficient packing; excessive breakage said to be due largely to new and inexperienced help in shipping departments; thefts by employees and sneak thieves, due to the labor shortage and hiring of workers without proper inquiry of past records. (Herr.)

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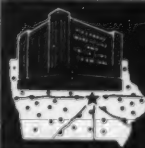
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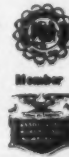
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Grape Fruit Pack Is 5,224,000 Boxes Compared With 3,776,642 Year Ago

Grape fruit shippers of California and Arizona shipped a season volume of the 1943-44 crop totaling 5,224,000 packed boxes, as compared with 3,776,642 boxes in the 1942-43 season, the Grape Fruit Industry Committee reported recently. Returns from the 1943-44 crop were reported as \$6,509,941, largest in the history of the grapefruit industry.

The Grapefruit Industry Committee functions under federal law to regulate grapefruit shipments from the Imperial and Coachella Valleys of southeastern California and the Salt River Valley and Yuma Mesa in Arizona. Disposition of every box of the

product sold must be reported to Byron Showers, manager of the committee, stationed in Phoenix headquarters.

Of the 1943-44 crop, 2,977,000 boxes were sold as fresh fruit and 2,247,000 boxes, or 43 per cent, went to juice canneries.

Manager Showers estimated that the grapefruit which sold fresh this year brought \$47 a ton to the grower, on the tree; the processed food, \$26 a ton on the tree. In the preceding season the growers received a return of \$35 a ton for fresh fruit and \$16 for that which was canned. (Herr.)

Prefabricated House Co-op Formed

According to recent releases, Precision-Built Home Corp., newly formed and largest single co-operative group in the country devoted exclusively to promoting housing construction, will merchandise homes through department and furniture stores, operative builders, lumber dealers, contractors, retailers, insurance companies, lending institutions, prefabricators,

industrial companies for employees, and through the export market.

Financed largely by contractors, dealers in building supplies and others engaged in various branches of the housing industry in all parts of the United States, according to F. Vaux Wilson, Jr., president, the licensed constructor-builders will set up fabricating plants in the major centers to service department store customers as well as others. These fabricating plants, he added, will normally operate in a 75-mile radius.

Hoyt Berry Picker Employed in Oregon

The Hoyt Cranberry picker, mechanical device employing suction method in picking, has been in operation at L. M. Kranick bog, Bandon, Ore., and under favorable conditions will pick 300 lb. of berries an hour, equivalent of about 25 picker measures.

A product of Grays Harbor Equipment Co., it weighs about 1000 lb., is mounted on a chassis with four pneumatic tires and is towed. A 9 hp. air-cooled gas engine powers the suction pump and berries are drawn into the machine through a large rubber hose. Latest protective device added by Hoyt is an air-controlled method of preventing the berries from being bruised as they are drawn into the machine. (Haskell.)

Carborundum Warehouses

The Carborundum Co., Niagara Falls, N. Y., abrasive manufacturer, is opening warehouses in Atlanta, Ga. and St. Louis, Mo., "in an attempt to follow the markets as they develop," President Arthur Batts announced. The Atlanta facilities will be the first in the deep South. The warehouses will permit quicker deliveries, he pointed out.

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Merchandise Storage,
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Pool Car Distribution,
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Local Transfer,
Private Sidings,
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Mice, and Furniture.
Switch track capacity —
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Loans made against nego-
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Cold Storage...



Liquidation of Some WFA Food Stocks Held Likely After Defeat of Germany

Between May 1 and Oct. 1, \$22,000,000 worth of government-owned food stocks was moved into civilian distribution channels, Lee Marshall, director of distribution, War Food Administration, told the National Assn. of Food Chains at its Chicago convention recently. Egg sales, including 13 million dollars worth of shell eggs and more than a million dollars of frozen eggs, accounted for the larger portion of the total, he said.

Included also, in the stocks sold were \$3,000,000 worth of farm products, mainly beans, peas and rice; \$2,000,000 of canned fruits and vegetables; and varying quantities of fats, oils, dairy products, coffee beans, sugar and citric acid.

Of the 121 food distribution orders issued since early last year, 48 have been revoked, Mr. Marshall said, adding that this policy of cancelling set-aside and other war orders as soon

as their objective has been reached, will be continued. There will be no dumping, he emphasized, and food will be kept out of speculative channels.

"We want to see regular commercial facilities operate in a normal fashion just as soon as possible," he stated. "We intend to keep only those war food orders in effect which war needs require."

Until the war in Europe is over, he continued, the government's 2,000,000-ton stock of food is likely to be maintained. But after defeat of Germany, liquidation, especially of lend-lease reserves, will be started, he stated. Currently, he said, WFA's large working inventory of stocks on hand is necessary to do a business of \$8,000,000 a day. Stocks are turned almost completely every three months this, he declared, being "a pretty good indication that we do not have any too much food in storage." (Slawson.)

Butter Box Packaging Schedule Proposed

A proposed Practice Recommendation for Butter Boxes and Packages submitted to several thousand butter producers and packers, manufacturers of fibre boxes, and others interested, for acceptance, according to an announcement of the Division of Simplified Practice of the National Bureau of Standards, U. S. Department of Commerce, contemplates establishment of a simplified schedule of types and sizes of packages and maximum inside dimensions of fibre-board boxes for the recommended standard packages.

New Texas Plant

Construction has started on a \$75,000 fire proof cold storage building at E. Houston and N. Cherry Sts., San Antonio, Tex., by the Merchants Ice and Cold Storage Co. It is reported that it will have a net piling space of 250,000 cu. ft. and will be convertible for use as freezer or cold storage. (Grissam.)

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Complete Warehousing Service

SHREVEPORT, LA.

The Distribution Center of ARK.—LA.—TEX.

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Modern fireproof facilities with sprinkler system... Private siding... Watchman service... Low insurance rate... Truck connections with all motor freight lines... Courteous, efficient service for thirty-two years... If you want your customers to get the best in Distribution Service HAVE HERRIN HANDLE!!

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Household Goods Storage and Transfer. Trucking Delivery Service.

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Incorporated 1918

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Baltimore's Most Modern Merchandise Warehouses

Rail and Water Facilities

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Baltimore 18

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Exclusive Agents for

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Operating Terminal Warehouses on Tracks of
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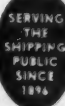
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Unloading—Special Flat Bed Trucks for Lift Cases.

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San Francisco Denies Rail Embargo Rumor

The rumor that, due to "port congestion" there may be an embargo placed on shipments by rail to San Francisco from supply sources in Eastern States, has been vigorously denied in San Francisco. Using the threat of such an embargo, local merchants are being urged by Eastern producers to stock up in anticipation of cessation of shipments in the near future. One reason given for this threat is intensification of the war in the Pacific.

Port authorities in San Francisco are prevented by military secrecy from giving facts and figures on the amount of cargo awaiting shipment, number of rail cars on hand, and so on, but this statement is made: there are substantially fewer ships in the Bay now than a few months back, and there was no congestion then. A ship repair bottleneck which kept vessels tied up has now been overcome; and threats of congestion have been further removed by the railway control stations and the holding yards for military and other Government rail cargo. A year ago the lower Bay area had a peak car handling capacity of 3000 cars daily. The peak is now three times that number. No transformation embargo is contemplated, officials say. (Gidlow)

For Shippers' Convenience, States, Cities and Firms are Arranged Alphabetically

Increase of Locker Plants Predicted —L. R. Uhrig Heads National Operators

Louis R. Uhrig, Carrollton, Mo., has been elected president of the National Frozen Food Locker Assn., succeeding George O. Schlageter, Streator, Ill. Others elected at the sixth annual meeting held recently in Columbus, O., were: C. G. Holme, Sebastopol, Cal., first vice president; Harry Flory Eaton, O., second vice president; and L. E. Bothell, Monroe, Wis., third vice president. Albert Guggenbuhl, Des Moines, Ia., and L. T. Potter, Waterloo, Iowa, were renamed secretary and treasurer, respectively.

Citing home storage units as "definite adjuncts" to the locker plant, retiring association President Schlageter told delegates that postwar years will see the present 5800 locker plants in the country multiplied by thousands. He predicted the operator will continue to render the services of slaughtering, cutting, packaging, and quick-freezing of large quantities of meat and food, while the home unit will serve as a short time supplement. Sen. George D. Aiken, Vermont, told members that as long as operators continue to feature service, their profits are inevitable, and he urged them to use the educational possibilities of their business to improve the diet and living habits of the nation. He also

said that America must never again permit a policy of scarcity.

"Only through full employment and a high purchasing level can the products of American farms and industry be bought and used," he declared, and predicted that the future would see a substantial lowering of international trade barriers and an increase in the purchasing power of the people of other nations.

Other speakers included: Phil Hendrick, Universal Cooler Corp., Marion, O., who discussed low temperature storage units and their effect on the frozen food industry; R. G. Nagler, of Deep Freeze Corp., Chicago, on the merchandising of frozen foods for the units; Dr. Donald K. Tressler, Consumers' Institute, General Electric Co., Bridgeport, Conn., who discussed merchandising possibilities.

Demonstrations were conducted in meat cutting and boning by K. F. Warner, of the Department of Agriculture, Washington, D. C., and in poultry by C. M. Ferguson, of Ohio State University.

Panel discussions included plant managers, dietitians, food research authorities, manufacturers, and suppliers. (Kline.)

The Inter-American Highway

(Continued from page 20)

required equipment at convenient points in Central America, the construction of camps and the accumulation of supplies by Nov. 15, 1942, so that with the opening of the dry season construction could be started simultaneously at all possible points. Contracts were let in August less than a month after final instructions to proceed. But the difficulties in securing equipment and forwarding it to points in Central America were such as seriously to retard the initial organization and preparation. Even today, not all needed equipment has arrived on the respective sections.

The almost complete failure of transportation by water to Central America from ports of the United States on both coasts not only quite destroyed the possibility of carrying out the original program, but emphasized as almost nothing else could the necessity for the very project that was being prevented by the inevitable course of events. Indeed, so keen became the pressure to secure some outlet from Central America that plans were successfully carried forward to construct a railroad bridge at the Suchiate River between the towns of Mariscal and Ayutla at the head of rails respectively in Mexico and Guatemala. But the building of the

bridge and the creation of a freight transfer station at Ayutla, Guatemala, did not come in time to relieve the need and so difficult became shipping conditions that one contractor was entirely unable to equip his job and the contract was cancelled.

Other Difficulties

Other difficulties have been encountered that were not to be expected. The rainy season that normally would have tapered off to three or four inches for December with most of that before the 15th of the month carried on almost unabated in the upper elevations and often in the lower into January, February and even into March in some places. As the job was in large part one of making the dirt fly, the continued rains rather effectively interfered.

The completion of the instrument survey over the hitherto unsurveyed section of the continental divide in Costa Rica revealed an exaggerated series of conditions, expected in lesser degree but occurring far beyond anything previously contemplated. It was known from reconnaissance surveys carried out over wide areas in southern Costa Rica that the construction there would probably be the

most difficult between Mexico and the Canal Zone. It was thought that the elevations already reached in Mexico and Guatemala would exceed anything required to get over the continental Divide in Costa Rica. But the section between Cartago and San Isidro General in Costa Rica is far the most difficult to construct between Alaska and the Canal Zone.

Rough Going!

The altitude at the pass as developed by instrument surveys is 10,931 ft., about 400 ft., higher than any other point along the route. There are about 30 km. of heavy rock excavation along the highest part of the line where a volcanic dike rises through the sharp slopes of the cordillera and comes so close to the surface as to enter the road prism throughout a long series of cuts. This source dike makes the descent from the pass to within about 15 km. of San Isidro extremely difficult. The average excavation for 27 km. will exceed 157,000 cubic meters a kilometer and one kilometer will run about 366,000 cu.m. This is roughly 760,000 cu.yd. a mile.

Engineers of Public Roads Administration who are familiar with the heaviest highway construction in the United States over the Rockies and in the high Sierras pronounce this section the heaviest road work ever encountered anywhere. Reconnaissance conducted at intervals over several

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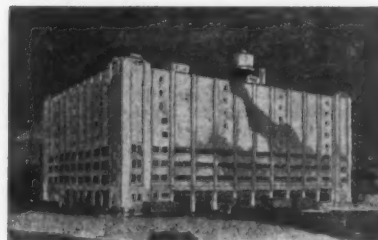
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years in a fruitless effort to pierce the coast range on a more favorable route through a mythical low pass, convinces all concerned that with the well-known Meseta Central and the valley of El General River as objectives no better route can be found. Shunk, who was in charge of the Inter-continental Railroad surveys in the late 1880's, did not attempt to reach either objective, declaring the latter altogether too difficult even to attempt.

A Mile Up and 1½ Down

The highway over the continental divide between Cartago and San Isidro, about 94 km. in total length, will start at an elevation of about 5000 ft., climb to 10,931 and descend to 2500 ft. at San Isidro, that is, climb a mile up and a mile and a half down.

To have constructed a pioneer road across this area would be about as difficult to build to final width, providing, of course, the final line was to be followed. To have abandoned the final proposed line in favor of one following around the contours would have resulted in a road dangerous in the extreme in view of the sheer rock precipices that occur intermittently throughout the higher altitudes. So through this section, included in the Mills contract, the standard line will be followed with some concession in the proposed standard grades.

Impressive Scenery

When completed, this section will constitute one of the most scenic and

impressive stretches on the entire line from the United States to the Canal. The Atlantic and the Pacific will both be visible from the top at many points, the Pacific over 30 miles away, and the Atlantic over 50.

Owing to the slow start and the continuing difficulties of transportation of equipment, supplies and materials, the original program will not be possible. But the road was constructed either as a pioneer or standard highway across Guatemala, Salvador, Honduras, Nicaragua and Panama in July, and should be through Costa Rica by July of next year. Probably a pilot road, sufficient for the passing of construction equipment will be completed in the Costa Rica section this year.

Following the completion of the pioneer road sections, standard road construction will proceed without interruption. The surface will be widened to six meters and the grade to nine. The profile will be corrected where necessary to conform to the standard specifications of 6 per cent and compensated 7 per cent where necessary. Temporary structures where now introduced will be rebuilt in permanent form and the entire surface finished with a bituminous penetration or surface treatment. The total length on the combined standard and pioneer route from the Suchiate River at the southern Mexican frontier to Balboa basin in the Canal Zone will be 2561 km:

Central American Abaca to U. S.

By 1945 Central America will be supplying the U. S. with 15 to 20 per cent of the abaca (source of Manila hemp) formerly imported from the Philippines, according to a recent report by Leo T. Crowley, FEA head, to Senator Kenneth McKellar, acting chairman, Senate Appropriations Committee.

The Crowley statement covered the subject of strategic materials procurement in other American republics. It reported 40,000 acres of abaca under development in Panama, Guatemala, Costa Rica and Honduras, in an effort to replace losses from the Philippines, formerly the source of our entire supply of this material from which it made hemp.

China Cargo Shipments Have Record Year

The Central African Division, Army Air Force Transport Command, on a "round the clock" schedule recently clicked off a year's record with no fatal accidents. Carrying supply and personnel aid to China from Accra, on the West African Gold Coast, to Karachi, India, a distance twice the span of the U. S. and of a more hazardous nature than encountered in U. S. flights, the ATC division has operated more planes than any other domestic American airline.

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Low Insurance

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& MULBERRY ST.

Transportation in Distribution

(Continued from page 22)

mendous. The great job that trucks have done for Uncle Sam both at home and on the war fronts is beyond description. The thousands upon thousands of vehicles have fed our war plants to keep them going and to permit the enviable record which production may well boast. Other vehicles have been transporting the finished products to shipping ports and other points of need. Still others have been supplying the essential civilian needs in every city and town in the country. In fact, 54,000 communities in this country are entirely without rail service and must depend 100 per cent on trucks.

Overseas, the problem of supplying the troops has been delegated almost entirely to trucks because the action has taken place either in sections where rail facilities were non-existent or where the railroads were blasted out of use. The job that trucks have done in keeping up with the G.I.s is something that will go down in his-

tory. It has been well said, indeed, that this is a motorized war.

It goes without saying that all forms of transportation should work together, and that we should take advantage of all the lessons we have learned during wartime. In particular, if the various states would remove the barriers to efficient highway transportation in peacetime as they have in wartime, we could be assured that industry would function at its best and that progress could continue unshackled.

In the same way, all industry should eliminate petty squabbles and work together for the common good. It goes without saying that we must get our costs down through efficient methods if we are to have a balanced economy and a volume of business that will assure prosperity. Patriotism is a matter of working together for the good of the country at any time, not just a matter of offering service in time of war.

Warehouse Lease

Columbus Terminal Warehouse Co. has leased four-story brick building, 119 E. Goodale St., Columbus, Ohio, approximately 80,000 sq. ft. of floor space; fireproof with sprinkler sys-

tem, and now being remodeled to make it one of the most modern warehouse buildings in central Ohio. Company also operates warehouses at 55-57 Terminal Way and 416 Dublin Ave. in Columbus. (Kline.)

Maritime Commission Serves Notice

The United States Maritime Commission has issued a notice to all persons furnishing wharfage, dock, warehouse, or other terminal facilities in connection with a common carrier by water, requesting them to file with the Division of Regulation of the Commission, and keep open to public inspection, schedules, tariffs, contracts, and agreements showing the rates, charges, rules, and regulations connected with these operations.

This action by the Commission was taken to ensure the proper administration of the regulatory provisions of the Shipping Act, 1916, and follows the affirmation by the United States Supreme Court (320 U. S. 577) of the jurisdiction of the Commission (Docket No. 555, Practices, etc., of San Francisco Bay Area Terminals, 2 U.S.M.C. 588), over all private, State, and municipally owned terminals. Heretofore, the Commission has found it necessary, in specific instances, to require the filing of terminal tariffs, as in the above-mentioned proceedings.

Named Distributor

Appointment of the E. Keeler Co. as distributor of the Crosley Corp. in the central part of Pennsylvania has been announced by B. T. Roe, manager of distribution of Crosley.

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The Air Brake Celebrates Its 75th Anniversary

(Continued from page 24)

to reduce air pressure through the train pipe to the rear cars which, still unbraked, bumped into the braked cars ahead.

The answer was the quick-action brake, the continuing development of which is illustrated in today's 150-car and longer trains in which emergency braking action is reliably transmitted at 930 feet per second by purely pneumatic means.

In Other Fields

Coincident with the development of brakes for the railroads, research has also provided air brakes for street railway cars, subway trains, high speed metropolitan transit lines and automotive vehicles.

The science of pneumatics was almost 75 years old when the marine industry sought its help.

Engineers, mindful of the manner in which air brake devices were serving in other transportation fields, have been able to create almost overnight a war-demanded type of pneumatic control that can reverse a ship's direction in a matter of seconds and give it a special escape from torpedoes, mines or falling bombs.

This has made possible the direct control of the vessel's movements from the bridge. By means of a small lever it put complete control in charge of the pilot. It placed all operations in the entire cycle of engine maneuvering in the handle of that lever.

When the pneumatic system was installed and put to test, it performed this marvel on a ship going full speed forward: with finger-tip pressure, the pilot cut off engine fuel, braked the engines, shifted gears, released the propeller brake, fed in fuel, re-started the engine and sent the propeller shaft into reverse—in a few seconds!

The pneumatic system not only cuts time lag 90 per cent; all operations are foolproof against accidental change in sequence. Everything is synchronized and automatic.

Signaling Systems

Signaling systems have played a vital role in the development of railway transportation. Until a quarter of a century ago they consisted mainly of manual and automatic block signals, interlockings and highway-railroad grade crossing warning de-

vices. The primary function of the systems was to increase the safety of train operations.

In more recent years, the need to expedite train operations safely while at the same time reducing operating costs has stimulated a continuing flow of signaling devices which are ingenious both in conception and in performance. Union Switch & Signal Co., which is a part of Westinghouse Air Brake Co., has pioneered and introduced these innovations and improvements. As might be expected, many of them utilize compressed air to perform their various functions.

Among the more striking developments have been automatic block signaling, interlocking systems, automatic train control, coded track circuit control, continuous cab signaling, centralized traffic control, car retarders and the very new inductive train communication system which permits two-way voice communication between trains on the same or adjacent tracks, between vehicles in the same train, and between trains and stations.

Men and Organization

The story of an invention should include some mention of the company that manufactures the product and the men in its offices and shops.

George Westinghouse, the founder, was president until he died in 1914. He left his mark on many industries and the honors conferred upon him

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To those who have been associated with the company, the first seventy-five years of "braking with air" have been intimately significant; but the larger importance lies in the refinement the air brake has brought about in the development of transportation and to its effect upon the lives of the people of the world.

Bendix Appointed

Appointed as official operating agency for the United States Army Air Forces, the Eclipse Machine Division of Bendix Aviation Corp. will take over operation of the United States Navy-Remington-Rand "N" plant at Elmira, N. Y., to expand mass production of vital new equipment for the B-29 Super-Fortresses.

Air Cargo Potentials In Latin America

(Continued from page 26)

Imports are orchids, tonka beans, and reptile skins."

Argentina . . .

"A substantial part of trade between United States and Argentina usually consists of commodities needed to supplement inadequate domestic production," according to the Department's release on Argentina-U. S. air cargo potentialities, since "the economy of Argentina is similar in some respects to that of the United States. Argentina is located largely in the temperate zone, normally exports huge quantities of surplus agricultural and pastoral products, and boasts a high degree of industrial development compared with other Latin American republics . . .

"United States trade with Argentina in 1939 totaled \$129,169,871, of which United States exports (domestic) were valued at \$70,621,123 and imports for consumption, \$58,548,748. This produced a so-called favorable balance of trade for the United States. In the case of commodities selected as possessing air-cargo potentials, the balance was even more in favor of the United States, with exports totaling \$9,978,776 in

value while imports were valued at only \$2,468,123 . . .

"The United States' chief imports from Argentina have been flaxseed, wool, hides and skins, tanning extract, and canned meat. On the other hand, while the United States exports to Argentina important amounts of such supplementary commodities as crude petroleum, petroleum products, lumber and wood products, the leading exports have been manufactured goods, especially machinery, vehicles and parts, either not produced at all or in negligible quantities in Argentina."

Brazil . . .

"The Annual Foreign Trade Statistics for 1939 published by the Bureau of Foreign and Domestic Commerce indicate that 1,358 commodities were exported from the United States to Brazil with a total value of \$80,345,195. Included in these classes were 476 with a total value of \$10,991,782 which had a value of 50c. a lb. or over or were either perishable, fragile, or possessing a style factor. The 476 classes consist of 437 which have a value of 50c. a lb. or over, while the remainder, comprising commodities valued under 50c. per lb. consisted of 15 perishable commodities, 21 fragile

commodities, and 3 commodities with a style factor. The total weight of the 476 commodities selected as constituting air cargo potentials amounted to 13,575,373 lb. with an average value per lb. of 90c.

"A similar analysis of imports in 1939 from Brazil to the United States indicates that there were 255 commodities imported of which 47 were

selected as possessing potentials for air shipment. A breakdown of these 47 shows that 40 were valued at 50c. a lb. or over while 7 commodities valued at less than 50c. per lb. were perishable or fragile. The 47 selected commodities had a value of \$3,406,212 or 3.2 per cent of the value of all imports from Brazil. The total weight of the selected commodities amounted to 1,731,335 lb. or \$2 per lb."

Coordination of Major Trade Groups For Better Use of Air Cargo Urged

(Continued from page 32)

"There are two basic types of financing," Mr. Strong pointed out. "There is the secured loan and the unsecured loan; that is, a bank will either advance money on a borrowers' I.O.U., or the borrower will lodge with the bank collateral to secure the loan. Banks consider generally the merchandise as security for the transaction. The bill of lading in ocean and land traffic gives the consignee or the holder of the instrument title to the goods.

"The airwaybills presently used by the air carriers," Mr. Strong continued, "do not clearly define in whom title to the goods is vested. The Committee of Uniformity in Documents of the Bankers Assn. for Foreign Trade has recommended:

1. Coordinated effort to devise a uniform negotiable or non-negotiable air waybill suitable for bank financing.

2. Comprehensive uniform laws with regard to international air cargo shipments and the documents relating to such shipments.

3. Insurance offered by airlines to cover both ordinary and war risks unless arrangement is made for an interim settlement when it is difficult to determine cause of the loss.

4. Pending adoption of uniform airwaybill, operating airline to revise their airwaybills in line with principles which will make for bank financing on basis of them.

"Coordination of services of air carrier with those of other groups will make for best development of air commerce," L. F. Bouman, U. S. representative, Royal Dutch Airlines, and secretary to the board of di-

rectors of Royal Dutch Netherlands Indies Airways, pointed out.

"By utilizing the past experience of international freight forwarders and European air companies, it should be possible to devise further methods of coordination between such agencies and express companies, motor carriers and airlines for dealing with solicitation or pick-up and delivery services.

"Warehouses should come in for use with small stocks of numerous products to be kept within ready access of retailers and to be quickly replenished by air cargo transport.

"Air carriers, regardless of nationality will find coordination valuable with not only other groups, but among themselves."

Kinsey N. Merritt, general manager, public relations, Air Express Division, Railway Express Agency, said that "Air express tariffs apply between upward of 375 cities . . . connected by approximately 45,000 route-miles of airlines.

"Coordinating air and rail services gives this traffic the benefit of air speed for long haul which averages about 1,000 miles and of fast passenger train speed for rail haul."

John V. Lawrence, managing director, American Trucking Assns. urged greater air-highway coordination between independent motor carriers on the one hand and the airlines on the other. He also advocated maintenance of independent agencies in the transportation field.

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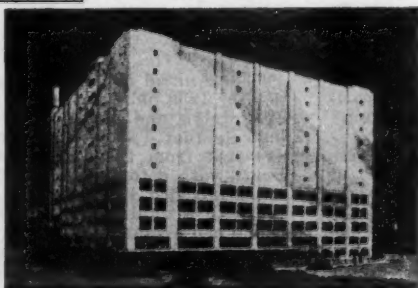
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SHEPARD WAREHOUSES INC.

DAILY DISTRIBUTION SERVICE TO
ALL POINTS RADIUS 35 MILES

667 Washington St.

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Air Cargo Rates . . .

(Continued from page 36)

tion; largely because trucks and drivers could be more effectively utilized, taking into consideration such factors as the distance of airports from city business areas; the number of stops per mile; the number of shipments per stop; and the unequal number of incoming and outgoing shipments.

It is to be hoped that no airline will go into the trucking business, just as it is to be hoped that no motor carrier will go into the air to carry cargo. On less-plane load lots it is to be hoped that the rate will cover pick-up and delivery for all shipments on a scheduled basis, not a hit or miss basis such as would be involved in permitting receivers to call for their shipments at airports or downtown consolidation stations, or which might develop should shippers try to deliver their own outgoing traffic to the same points.

Owens-Illinois Purchase

Owens-Illinois Glass Co., Toledo, has purchased the half-interest in Owens Staple-Tied Brush Co. formerly owned by Toledo Automatic Brush Machine Co. Although now under complete ownership of the glass company, Owens Staple-Tied Brush Co. will continue to operate as a separate unit. (Kline.)

Function and Design Of Postwar Trucks

(Continued from page 43)

life and not a return to babbitted bearings.

Expect sleeveless and sleeved engines, Mr. Cass predicted, unless some new development would justify general use of sleeved engines.

Supercharging as used in aircraft engines, in motor-freight trucks will depend first on developing successfully a supercharger within a reasonable price range. Aircraft experience here in developing superchargers at a proper price "means exactly nothing" to the trucking industry. Further, supercharger maintenance must be carefully studied.

Packless-type water pumps will be continued, even though changes requiring additional pressure on the sealing of this design may be made in the cooling system.

Pressure cooling will be considered seriously because (1) more compact designs, (2) reduced cost, (3) reduced weight is needed. Badly needed is a foolproof device so the uninformed can't remove the radiator filling cap when there is pressure in the system.

Cooling systems of the by-pass type and thermostats which will take the wear and tear more successfully are practical possibilities and operators will have better assurance of more

stable engine temperatures regardless of kind of operation.

Leading thought is to synchronize transmissions in postwar trucks. Because excellent drivers are the exception, synchronization may increase over-all life of the transmission. The synchronizers will be made heavier so they will stand up and thus their cost will be increased.

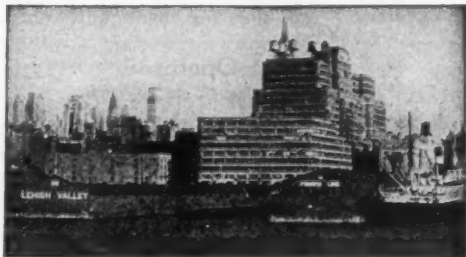
The torque converter, automatic transmission, fluid clutches will not enter the highway picture for many years, it was said. Their use in long-distance trucking may depend greatly on development of super-highways.

If some automatic gear-changing setup is instituted, Mr. Cass said, it will counter our better judgment against using this complicated control. Fluid devices for off-the-road service offers distinct advantages, with 80,000-100,000 lb. (gross wt.) trucks.

Brakes will be increased in size, speeded up in application, and use of hydraulic-operated brakes may be extended easily to gross weight ranges. Unquestionably, there will be a "mixture" of axles. Hypoid gears will be considered, although problems here will make designs conservative.

Re-use of light-weight metals: Don't expect much use of aluminum in early

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Outstanding as its dominance over New York's West Side midtown skyline, the STARRETT-LEHIGH BUILDING offers the manufacturer and distributor superior advantages:

- Lehigh Valley R. R. freight terminal on street level; elevators direct to rail yard platform
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Prompt service for any point in Westchester County

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Christmas Seals

Despite war, there is still need for funds to
aid in the prevention of tuberculosis. Buy-
ing Christmas seals is not charity but self-
protection.

postwar vehicles, Mr. Cass said. Transmission cases, bell housings, oil pans, radiator shells and some engine crankcases have been made of aluminum with some success. Because only trucks benefiting by the above uses of aluminum would need it, future use of aluminum on trucks depends on price. For that reason an all-aluminum engine is not going to be found in the postwar truck.

Let's hope, Mr. Cass concluded, that sales and advertising departments will keep engineers busy, not on styles of trucks, but "in meeting the real demands of transportation." (Leffingwell)

New Freight Terminal Opened by PIE

Pacific Intermountain Express has opened a modern new freight terminal in Emeryville, Cal., in the San Francisco Eastbay, supplementing the existing terminal in the city for the convenience of San Francisco shippers. This company has grown in two years from a small local operator into one of the largest motor freight carriers in the United States. Originally the operations were confined to service between the San Francisco Bay area and Salt Lake City. Now the company handles service south to Los Angeles, through the intermountain area, and east to St. Louis, with a mileage of some 8,000 miles daily. Fleet has increased 100 per cent in the past year. A new fleet purchase of 21 pickups

for use in the Bay area has just been made. The new terminal cost \$150,000. President is A. K. Humphries; vice-president and general manager, C. E. Johnson; E. Frank Eardly, vice-president sales and traffic; Ira Hodge, treasurer; S. A. Glikbarg, secretary. (Gidlow)

Rolling Roll of Honor

Motor Cargo, Inc., Akron, O., has established what it believes is the first

Two-Speed Rear Axle Announced for '45

Many new features and improvements will be incorporated in the commercial trucks to be produced by International Harvester Co. in 1945, P. V. Moulder, general manager of the company's motor truck division, announced recently.

Some of these improvements had been contemplated before civilian truck production was stopped by the government in March, 1942, Mr. Moulder stated, while others were developed in various military models the company has produced since that time.

All International medium and heavy-duty trucks to be made next year for civilian use will be available with two-speed as well as single-speed rear axles, Mr. Moulder said. They will be equipped with vacuum-controlled shift mechanism for the two-speed axle, he said.

"rolling" roll of honor. This is a gold-lettered scroll emblazoned below an eagle on the sides of a tractor-trailer unit which hauls war freight between Philadelphia and Minneapolis, and shows the names of 174 employees of the company now in uniform. (Kline)

Truck Operators Protest Proposed Tax

Truck operators in California are exercised over a proposal to charge \$1 for each automobile operator's permit issued. The idea originates with a California Interim Committee on motor vehicles. While the \$1 which would be collected every four years when new permit must be obtained does not amount to much, motor truck people say it is time legislators called a halt to their tendency to turn to highway users every time they feel like taxing something. (Gidlow)

J. D. Heiskell & Co.

California Railroad Commission has authorized J. D. Heiskell & Co., Inc., a corporation, to transfer to J. D. Heiskell & Co., a limited partnership, a public utility warehouse property situated in Tulare, Cal. Permission to dissolve the corporation and transfer the assets to the stockholders and form a limited partnership of the corporation's stockholders under the name of J. D. Heiskell & Co., was also granted by the C.R.C. (Herr.)

ASHEVILLE, N. C.



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MOTOR TRUCK SERVICE LOCAL AND DISTANCE. PRIVATE
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POOL CAR DISTRIBUTION
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Private Siding, A. C. L. Railroad Co.
Members, N. F. W. A. — A. T. A.

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Low Insurance.
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FOURTH AND CHERRY, N.E.
Canton 2
Merchandise, Household
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Free switching on all roads. Separate fire-
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Member of A.W.A.—Q.W.A.

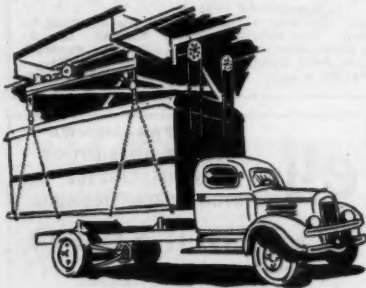


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49 CENTRAL AVE. HARRY POSTER, General Manager CINCINNATI 2

Demountable Bodies

(Continued from page 39)

winched from the truck to the freight car without the necessity of using auxiliary overhead lifting equipment. The units that have been developed for use only with motor trucks and not for railroad haulage have been constructed of lighter materials. Some of these are lifted on or off the truck or trailer chassis by means of overhead cranes, or the demountable



Demountable Body

bodies have been equipped with wheels or casters so they can be rolled from the transporting unit to the operating floor. In other systems, they have been suspended in side frames with an elevating and lower mechanism for raising and lowering, in which case

the truck or trailer chassis is backed in under the load but the demountable bodies are held in one place for loading and unloading cargo.

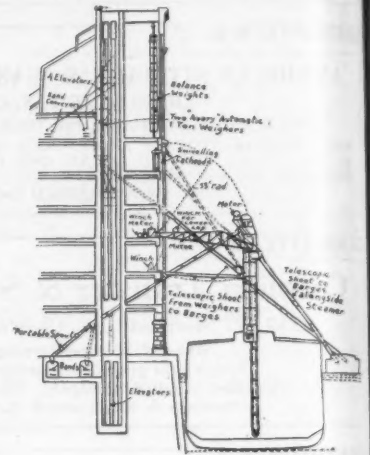
Application — Demountable bodies have many applications, and are particularly used to reduce the waiting time for loading and unloading of motor vehicles. They are the forerunner of the unit load system of handling, and have been used extensively by department stores to handle from the stores to consolidation stations; by milk companies and large trucking organizations. Some industrial plants have used them for inter-plant and intra-plant handling.

Marine Leg Elevator

Definition—A continuous bucket elevator mounted in special supports to compensate for the rising and lowering of the tide.

Description—Marine leg elevators are somewhat different than the ordinary bucket elevators although they operate on the same principle. However, since they must be able to move to compensate for the rising or lowering of the tide, it is necessary that they be supported in such a way that the vertical position can be changed. In some instances, it is necessary also to have the support arranged so that it can slew from one side to another in order to compensate for different sizes of vessels and locations of the hatch. The elevator itself is self-contained with the

motor mounted at the head, and the discharge either is made to a chute or to some other form of conveyor for transportation to the dock or storage shed. Some of these marine leg elevators have been made with telescoping sections, as shown in the sketch, so as to be able to take care



Marine Leg Elevator

of deep hold vessels, and extremely wide tide variations, without the necessity of having too large a unit in height to suspend from the side of the building when it is not in use.

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Consolidated. All deep-sea, PRR siding at Juniata. NYC private siding at Kinsman and Consolidated.

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Five warehouses are ready to help you with your tough jobs. Equipped with 4 locomotive cranes. With buckets and magnets for handling heavy steel or bulk commodities. Other mechanical equipment for handling merchandise.

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Private Siding NYC and B'g Four

14 Car Capacity
Pool Car Distribution A.D.T. Service
Centrally Located Modern Facilities
Members: A.C.W.—O.W.A.—A.W.A.



Marine leg elevators also can be supported from traveling Gantry structures if it is necessary to move them longitudinally the length of the dock.

Application—Marine leg elevators generally are used in connection with granaries, flour mills, breweries, oil mills, unloading of coal at gas plants, for the handling of grain, seed, such as cotton or lint seed, as well as nuts, castor beans, copra and other similar materials.

Chicago Considers Port Authority

Chicago, long recognized as the hub of the nation's transport system, is pondering a plan for creation of a Chicago Authority, which would have full control over all transportation terminals, warehouses and other distribution facilities in Chicago and the adjacent metropolitan area.

Functioning in a way similar to that of the Port Authority of New York, the new agency would be given power to build or acquire terminals to serve rail, air, water, trucking and bus lines. Operations would be financed through sale of revenue bonds without recourse to taxes and the project would be expected to pay its way with rental fees collected from users of the facilities. Envisioned in the plan is construction of a giant union railroad station, a vast trucking terminal and five airports. (Slawson)

Books and Catalogs

Little Known Facts. About air transport industry; charts, figures, 28 p. Air transport Association of America, 1515 Massachusetts Ave., N.W., Washington 5, D. C.

Ashes Make Poor Gunpowder. "Fight against fire"; 28 p. National Board of Fire Underwriters, 85 John St., New York 7, N. Y.

Amercoat No. 23 Plastic Coating. Bulletin on uses of general purpose, cold-applied plastic coating. Amercoat Division, American Pipe and Construction Co., P. O. Box 3428, Terminal Annex, Los Angeles 54, Cal.

Automatic Transporters. Literature on "automatic transporter" platform, pallet type motorized hand lift trucks. Automatic Transportation Co., 151 W. 87th St., Chicago 20, Ill.

Gliding. Initial issue on "importance of gliding in transportation." Illustrated. 10-p. Gliding, 4658 Portage Rd., Kalamazoo 85, Mich.

The Continental Eagle. CAL personnel, activities booklet. 19 p. Continental Air Lines, Inc., Municipal Airport, Denver, Colo.

Ten Years Before Pearl Harbor. Regarding 10 years of changes in trucks. Illustrated. 24 p. Marmon-Herrington Co., Inc., Indianapolis 7, Ind.

Practical Hints for Employers of Women. With Special Reference to Transportation. Compilation of facts from several transportation companies employing women on large scale due to wartime conditions. Office of Defense Transportation, Room 1230, New Post Office Building, Washington 25, D. C.

The Marmon-Herrington. 14 p. Pictures, articles on Marmon-Herrington tanks; workers. Marmon-Herrington, Indianapolis 7, Ind.

Good Public Relations for the General Contractor. Manual on building of public good will. 24 p. Associated General Contractors of America, Inc., News Bureau, 10 Rockefeller Plaza, New York 20, N. Y.

Panagra's Trade Survey of South America. Regarding imports, exports between U. S., Latin American countries. Pan American Grace Airways, Inc., Chrysler Building, New York 17, N. Y.

Pegasus. November issue; pictures, 10 p. Fairchild Engine and Airplane Corp., 80 Rockefeller Plaza, New York 20, N. Y.

Quarter-Deck. Shipping employees' magazine; pictures, 10 p. St. Johns River Shipbuilding Co., Jacksonville, Fla.

Hydraulic Devices. Engineered, developed for specific applications. Bulletin 137. Lyon-Raymond Corp., Madison St., Greene, N. Y.

Federal Agencies. Descriptive tabulation of 423 functional federal government units. 60 p. Citizens National Committee, Inc., 1409 L St., N. W., Washington 5, D. C.

Dutch Boy Quarterly. Practical, technical discussions of paint materials, lead and related products; pictures, 23 p. National Lead Co., 111 Broadway, New York 6, N. Y.

Products of Clark. Illustrations, descriptions, Clark Celfor drills and reamers, etc.; vest-pocket booklet, 32 p. Clark Equipment Co., Buchanan, Mich.

Clark Pictorial. Fully illustrated, 23 p. booklet: fork trucks, other Clark products. Clark Tractor Div., Clark Equipment Co., Battle Creek, Mich.

The Palletizer. Concerning pallet wartime uses. Pictures, 23 p. U. S. Naval Ammunition Depot, Hingham, Mass., Materials Handling Laboratory.

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Firefax. Information on fires, fire fighting. Pyrene Mfg. Co., Newark 8, N. J.
Your United Mainliner. Facts, figures on new 4-engined mainliner. United Air Lines, 5959 S. Cicero Ave., Chicago 38, Ill.

Reo News. Monthly publication of Reo news. Pictures, 7 p. Reo Motors, Inc., Editorial Office, 1331 S. Washington Ave., Lansing, Mich.

R. F. Goodrich Rechargeable Storage Battery for Flashlights. Pictures, 6 p. outlining development of rechargeable wet storage battery. R. F. Goodrich Co., Akron, O.

Torq-Stop. Resume of Livermont Torq-Stop Tools. 10 p.; pictures, charts. Richmond, Inc., P. O. Box 6450, Metropolitan Station, Los Angeles 55, Cal., or Milton E. Disner, 428 Center Bldg., Detroit 2, Mich.

ADT Transmitter. Monthly news-magazine on fire, burglary and holdups. 10 p., pictures. American District Telegraph Co., 155 Sixth Ave., New York, N. Y.

The Martin Star. Naval Air Transport Service issue. 22 p., pictures. Glenn L. Martin Co., Baltimore 3, Md.

Safety Rules. Folder with safety rules for operators of power industrial trucks. Elwell-Parker Electric Co., 4205 St. Clair Ave., Cleveland 14, O.

Transition Opportunities. Booklet containing 200 reports: peacetime trade potentialities, product innovations. 25c. each. N. Y. Journal of Commerce, 63 Park Row, New York 15, N. Y.

Making and Holding Friends Through Courtesy. Two-part common sense booklet to "inspire personal and company progress." Personnel Dept., Illinois Central System, Chicago, Ill.

Construction

Farmers Union Vegetable Oil Co-operative, St. Paul, Minn., has received approval for priorities on equipment for construction of a plant for processing flax, sunflower and mustard seed at Conrad, Mont. The plant will have capacity of 500 bu. daily and will cost \$60,000. (Herr.)

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Circuitous Routing Official Named

The Office of Defense Transportation has designated F. S. Keiser, associate director, Division of Railway Transport, Room 1955, 209 S. Wells St., Chicago, as the contact officer with whom railroads and shippers may handle cases of circuitous or burdensome routing. This authority extended to Mr. Keiser covers domestic and export freight whether shipped by the civilian distributors or by Governmental agencies. Shippers and railroads are requested to report all instances of circuitous or burdensome routing to that office.

Nothing in these instructions in any way modifies, conflicts or affects diversion orders issued by the Interstate Commerce Commission or its agents.

Proposes Enlargement Of Harbors Group

Interlake Terminals, Inc., recently adopted a resolution calling for the enlargement and strengthening of the Great Lakes Harbors Assn. to provide greater use of the Great Lakes for transportation; recommended that the association open its membership rolls to all commercial, industrial and individual interests which would promote the Great Lakes region, and suggested dropping the word "harbors" from the name of the association.

Westland Steel Company Announced on Coast

Coincidental with sale of its fabricating steel plant and warehouse steel department, Pennsylvania Iron & Steel Co., Los Angeles, has announced the company name has been changed to Westland Drawn Steel Co.

Under the new arrangement, Westland Drawn Steel Co. will concentrate exclusively on cold drawn bars production and carry on activities of cold drawn bar division established by Pennsylvania Iron & Steel Co. in 1942.

The fabricating plant and warehouse is operated by Roy A. Badt and John Landis as Pennsylvania Steel Co., now merged with Junior Steel Co. Both firms are separately owned and operated, but will share offices for the duration of the war at 2451 E. 23rd St., Los Angeles. (Herr.)

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Cost factors in distribution are discussed on p. 15 of this issue by Henry G. Elwell, traffic consultant. Do you know your costs?

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Postwar Storage Needs for Surplus Materials Likely to Total 100,000,000 Sq. Ft.

GOVERNMENT agencies will need approximately 100,000,000 sq. ft. of storage space for surplus materials after the war ends, Col. Albert B. Drake, director, Storage Division, Army Service Forces stated recently. Of this total, approximately 60 per

cent calls for covered storage and the remainder open area, Col. Drake told a termination and reconversion conference sponsored by New York University school of law.

He said that in order to obtain this space, the storage division of the ASF

will first utilize Defense Plant Corp. plants when they have been declared surplus to production needs and are found suitable for use in the storage program.

Next to be utilized will be space at Army posts and camps which is no longer needed by the Army.

The government also is acquiring sizable areas of open space suitable for the erection of temporary or prefabricated shelters, Col. Drake said, but this method will be used only in areas where DPC plants or surplus Army posts are not available.

Commercial space will be leased as a last resort, he added.

8,000 lb. Hammer Flown to Burma

The heaviest single piece of equipment ever to be shipped by air from La Guardia Field, an 8000-lb. trip hammer, was transported by an Air Transport Command four-engined C-54 cargo plane to an Army Air Force unit in the China-Burma-India theatre recently according to ATC priorities and traffic officers.

Priceless Cargo . . .

RESPONSIBILITY of transporting "one of the richest cargoes ever to be shipped by truck in America" was recently accomplished with success twice by Davidson Transfer & Storage Co., Baltimore, Md. The first fleet of 30 trucks required to transport the load was maneuvered into position at the Library of Congress, Washington, D. C., early in Dec., 1941, shortly after the attack on Pearl Harbor when officials of the Library decided to move its valuable contents to places of safer and of secret keeping.

Including the Bill of Rights, original drafts of Lincoln's Gettysburg Address, manuscripts of Thomas Jefferson and early American composers, the St. Blasius-St. Paul copy of the Gutenberg Bible and England's

Magna Carta, entrusted to our country since the War began, the cargo (weighing 621,050 lb., equivalent of 26 freight car loads) was individually packed into wooden boxes or packing cases, specially fabricated; placed in an assigned spot in an assigned truck, which was consigned to a specified inland depository.

Tractors and 30-ft. trailers were employed with drivers specially trained in speed and efficiency. By the following March all of the contents had been placed in their assigned depositories under armed guard.

This September, they were returned, again uninsured and again without accident, to the Library in Washington.

THE responsibility of carriers and consignees in correcting misuse of second-hand shipping containers was presented in a paper by K. L. Sodergren, assistant traffic manager, Montgomery Ward & Co., at the recent session of the Pacific Coast Transportation Advisory Board in San Francisco.

Mr. Sodergren prefaced his analysis of the used carton situation with the statement that the subject of used containers for the transportation of freight is of vital concern to the manufacturers of merchandise as well as to carriers, receivers and consumers.

The fact that almost all of the merchandise shipped to Montgomery Ward stores is in used cartons, Mr. Sodergren pointed out, had afforded him an opportunity to observe the handling and receipt of shipments at nearly all major points on the Pacific Coast.

It has been noted, Mr. Sodergren said, that the freight received at Montgomery Ward & Co.'s Oakland, Cal., branch from eastern sources generally is better packed in used cartons than freight received from western points. He expressed the opinion that length of haul, apparently, has quite a lot to do with the quality of packing. He amplified this point with the statement that shippers in the Los Angeles area pack merchandise for shipment to Oregon, Washington, Montana and Idaho points better than the same type of products for delivery to California.

Misuse of Re-used Cartons Lifts Shipping Costs

Efficient use of second-hand containers for the transportation of freight is of vital concern to manufacturers of merchandise as well as to carriers, receivers and consumers.

Correction of existing misuses of second-hand containers, Mr. Sodergren stressed, is the responsibility both of carriers and receivers of freight. The rail carriers, he pointed out, can relieve the situation materially by enlisting the aid of their street men who in normal times solicit business.

"Each carrier," Mr. Sodergren said, "stands to save enormous sums in reduced claims if carriers as a whole can educate shippers in the proper use of second-hand containers. Receivers of freight, perhaps, can do most in the important matter of educating shippers."

Mr. Sodergren cited Montgomery Ward & Co.'s plan as an example of one type of program of shipper education. The greater part of the firm's transcontinental I.C.L. tonnage, he explained, moves through one or more consolidation points en route to the final destination stores. At those con-

solidation points, the company uses a form letter, made out in duplicate, which lists seven errors in shipping originating at the source.

Seven Common Errors

These common errors, as cited by Mr. Sodergren, follow:

1. Name of source, as shown on billing, was not the same as shown on the shipping labels attached to containers.
2. Names of previous shippers were not obliterated from used containers.
3. Incomplete destination marks. Each container should show store name, store number, order number and weight.
4. Name and address of consigner incomplete. Full name and address should show on each container.
5. Manifest or distribution sheet

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219 E. North Water St., CHICAGO
Phone: Sup. 7180

(on consolidation shipments) was not sent to the distribution point. Manifest indicating store name, order number, number of packages and weight should be sent with every consolidated shipment.

6. Marks on containers were illegible. Use of stencil should be standard practice.

7. Containers of insufficient strength were used for weight of contents.

The form letter, according to Mr. Sodergren, goes still further in soliciting the cooperation of the shipper in order to secure fast, efficient and economical transportation. It is pointed out to the shipper, for instance, that the correction of errors in the shipping will result in the elimination of losses, damages and delays in the payment of invoices.

Letters to Shippers

When any of the shipping errors is noted by the freight handlers at the consolidation point, it is checked off on the form letter, the heading is filled in, and the letter sent to the shipper. A copy is kept at the consolidation point, and at the end of each month these copies are reviewed. If it is felt that one particular source is consistently making errors, the company contacts the president or general manager of the company making the errors, pointing out the losses being suffered by merchandise in transit, due to misuse of second-hand contain-

ers or whatever other nature the complaint may represent.

"It has been found," Mr. Sodergren said in summing up his observations, "that the most common complaint is that containers of insufficient strength were used for the weight of the contents of the carton. We have been quite successful in getting our large shippers to correct this, so that their re-used containers are coming through in good shape. They are properly protecting the merchandise they ship to our stores."

Mr. Sodergren indicted as the worst offenders in the use of containers of insufficient strength were the small manufacturers who make infrequent shipments. This type of shipper, he emphasized, should receive the special attention of the directors of educational programs aimed at improving packaging. The railroad, receiving shipments in inadequate, used cartons, Mr. Sodergren said, could police the matter and have the agent or freight claim prevention depart-

ment educate the shipper in the proper use of re-used cartons.

Small Manufacturers

"It is with the small manufacturer that the railroad claim prevention program can be very effective," he said. "These people do not have the volume or the capital to support a packing engineer in their organizations. A system of notification by agents at the point of origin would advise the claim prevention department of the most flagrant offenders making shipments, and a visit to the manufacturer would do much to correct his shipping errors."

Mr. Sodergren pointed out that most of the sources cited above ship their manufactured product in cartons picked up at local used carton dealers, or in cartons originally containing the materials from which the product is manufactured. An incentive for employees of such manufacturers to handle used cartons properly has been made by the War Production Board, he said, which has made a suggestion that employers offer their employees a bonus for careful handling of inbound cartons.

Other Methods

At the conclusion of Mr. Sodergren's paper, N. M. Manor, traffic manager, Grether & Grether, Inc., Los Angeles jobbers in dry goods, supplemented the previous speaker's re-

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SAN JUAN 12, P. R.

TRANSPORTATION and handling, as links in
the chain of distribution, are discussed by
Maj. Scragg on p. 21 of this issue. It is worth
attention.

marks by outlining a program for checking poor packaging which parallels the Montgomery Ward plan in many respects. Grether & Grether, Inc., Mr. Manor reported, has an extra copy made regarding every claim, regardless of what it may be for, and the extra copy, with a letter, is sent to the shipper explaining the reason for that particular claim.

"We explain in detail to our shippers the exact reason for the claim,

giving them a copy of the claim and telling them that at this particular time we are more interested in merchandise than we are in money," Mr. Manor said. "I received probably 75 per cent acknowledgment, thanking our company. Following through, we found that the places where these letters have gone have brought about a substantial improvement in their methods of shipping in 30 to 60 days." (Herr)

\$1,000,000 in Reclaimed Lumber Saved By Transportation Corps

USED lumber valued at more than \$1,000,000 has been reclaimed in the last three months by the Transportation Corps, Army Service Forces.

Operated principally by Italian Service Units and German prisoners of war at the Transportation Corps' ports of embarkation and other installations, the salvage program is said to have mushroomed from a routine job to a conservation effort increasingly vital to wartime shipping.

Every type of lumber, from bomb racks and bulkheads on freight cars to dunnage (cargo braces and supports on ships), goes into the wood-

pile at port salvage yards where it is sorted for reuse.

Nails, too, are saved. Picked up by a special magnet powered by a gasoline truck, about 90 per cent of their value is derived from their sale to junk dealers. The remainder are straightened and used again.

Reclaimed lumber had piled up at most Transportation Corps installations because of a critical labor shortage. Today, at every port of embarkation in the country except Seattle, Wash., and Hampton Roads, Va., Italian Service Units handle practically the entire project.

Salvaged lumber falls into four

categories: utilities and repair; packing and crating; dunnage; and firewood. As soon as the used lumber is unloaded at depots and ports, it is shipped by truck or rail to the salvage yard where workers remove nails, spikes and tin wrappings.

Oil-soaked lumber is burned to eliminate fire hazards, and unsalvageable scrap is sold for fuel. The remaining lumber is checked, sawed, sorted and shipped where needed.

Cargo ships have a great need for "dimension lumber" which comes from the far West. But large shipments to the East Coast would tie up railroad equipment for this long haul. That is where the port salvage program saves railroad rolling stock.

Ninety per cent of the 300,000 bd. ft. of lumber reclaimed each week at the Boston port is "dimension lumber," which, it is said, if purchased new, would cost \$15,000, or more.

At the Los Angeles Port of Embarkation, giant wire cable spools are being covered with salvaged slats. The port also will build 16-ft. row boats out of salvaged waterproof Douglas fir plywood. Although the program is comparatively new there, it has resulted in the savings of approximately \$200 a day on one operation alone: the substitution of salvage for new lumber in dunnage.

The San Francisco Port of Embarkation is reported to have salvaged enough lumber to represent the equivalent of 37 acres of timber, a saving to the government of \$33,000.

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135,000 square feet on Southern Railway tracks

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Private R. R. siding Perfect service

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Automatic Sprinklered—Spot Stock and Pool Car Distribution—
Private Siding

NIT League Meeting

(Continued from page 14)

The laxity of many motor carriers in their handling of loss and damage claims was vigorously condemned by a large number of League members. The ATA was doing its best to co-operate, it was said, but lacked the power to control its members, and had no influence whatever with approximately 25,000 motor carriers not members of the association.

It was predicted that more drastic action on the part of shippers would be necessary to remedy the situation.

Coastal Shipping: A plea to Government that ships used in inter-coastal and coastwise shipping be restored to commerce as soon as practicable was endorsed.

Merchandise Service by Rail Carriers: A committee was authorized to appear before the Railroad Committee and advocate that rail carriers adopt the following eight points:

"1. Established special departments for merchandise traffic. 2. Centralize pick-up in large cities so that one truck will pick up for all carriers. 3. Provide reliable and speedy time in transit. 4. Provide adequate tracing service. 5. Establish co-ordinated rail and highway services. 6. Equip cars with protection against heat or cold, such as 'Port-a-Kold' or refrigerator containers now in use on many lines. 7. Equip cars to prevent damage by the use of bulkheads or other devices. 8. Develop distribution of merchandise schedule information."

Extension of Statute of Limitation: Opposition was voted against any proposals to increase the statute of limitation for action against rail car-

riers with respect to overcharges from two to four years on the grounds there is no need for such extension.

Pick-Up and Delivery of Heavy Articles: The League approved and recommended for universal railroad publication the following:

"Pick-up and delivery service will be afforded railroad shipments which, because of weight, size and character, require in their loading or unloading additional labor beyond that ordinarily furnished on the dray or truck only when

Warnings to Carriers

Long distance motor carriers operating out of Chicago will be kept advised during the winter months of expected severe cold waves or heavy snows in the territories in which their units are operating by the transportation department of the Chicago Assn. of Commerce. This department will be notified by the U. S. Weather Bureau when and where severe snow and icing conditions are to be expected. It will relay the warnings by telephone to member motor carriers operating in the affected areas.

This service was tried for the first time last winter and proved to be of such value to the carriers it is being offered again this year. The reports will cover the territory from the Atlantic coast to the Rockies and from the Canadian border to the Ohio river.

the consignor or consignee furnishes such assistance as may be necessary in the loading or unloading of such articles at their places of business, but not otherwise."

Relaxation of ODT Orders: Although the committee on emergency transportation reported that there is evidence of possible relaxation of some existing ODT orders, a letter from Col. J. Monroe Johnson, director, ODT, was read wherein he stated that "the word 'emergency' is more appropriate today than ever in regard to transportation," and that transportation burdens are likely to increase during the coming months.

Centralized Regulation of Transportation: The League went on record "as favoring the regulation by a single federal agency of rates, classification and charges, services and practices in connection therewith including the granting of certificates of public convenience and necessity and the rate of pay for mail, of all regulated forms of domestic for-hire transportation, including domestic air transportation, and that such regulation shall be entrusted to the Interstate Commerce Commission under proper mandate of Congress."

Inland Waterways: The League endorsed "the principle that user of inland waterway facilities created at public expense and now in existence should pay a reasonable user charge for navigation maintenance and special services or special facilities provided, and that with respect to new projects reasonable user charge should be paid in proportion to the benefit received and navigation maintenance and special services or special

facilities provided; that before Congress appropriates any money for any waterway projects for which a transportation value is claimed, it should have a finding from the Interstate Commerce Commission that the additional transportation is necessary and that there is sufficient traffic to justify utilization of such waterway project."

Railroad Consolidation: The League reaffirmed its position favoring only voluntary consolidation of railroads and opposing consolidation plans which involve regional railroad systems under which competition would be substantially curtailed. However, railroad consolidation, if approved by the ICC, for purposes of coordination and economies was approved.

Demurrage Day: Approval was voted for the adoption of a proposal made by the American Assn. of Railroads to the effect that a "demurrage day consists of a 24-hr. period or fraction thereof computed from 7 p.m."

Taxation: Officers and executive committee were authorized to support appropriate legislation by Congress amending income tax laws so as to permit carriers, within appropriate regulations of the ICC, to accrue charges for postponed maintenance and accelerated depreciation, against operating expenses thereby reducing their net income for tax purposes.

Joint Through Rates: The League reaffirmed its opposition to joint through rates between common motor carriers and regulated freight for-



President Ted V. Rodgers (left) of the American Trucking Assn. greeting Major Edward Bowes and George W. Malcomson of the Dodge Division, Chrysler Corp. This photo was taken at the CBS "Theatre of the Air" in New York immediately following a Major Bowes broadcast which paid high tribute to the members of the ATA, the truck drivers and truck maintenance men of America.

warders and in favor of assembly and distribution rates.

Limitation of Motor Carriers' Liability: The League recorded its opposition to any change in the general motor carrier rate structure which would result in any overall limitation of motor carrier liability and the addition of excess value charges.

Accounting and Cost Finding: Action was authorized before the ICC to the end "that accounts and other carrier records, particularly motor carrier records, shall be kept in such a sound and revealing manner that

they will reveal all of the true conditions and enable the Commission to fulfill its obligation to require the sound practice and procedure necessary to the establishment of rates which truly reflect the economical and efficient management which our transportation industry is directed by law to furnish the public."

Membership: The League's membership was reported at 1,071, largest in the organization's history.

Next Meeting: The next annual meeting will be held Nov. 29 and 30, 1945, at the Palmer House, Chicago, Ill.

New Officers: All incumbent officers were re-elected. They are:

President: John B. Keeler, assistant general traffic manager, Koppers Co., Pittsburgh, Pa. Vice President: Alonzo Bennett, vice president, Federal Compress & Warehouse Co., Memphis, Tenn. Treasurer: R. W. Campbell, manager, traffic dept. Butler Paper Corp., Chicago, Ill.

Regional vice presidents are as follows:

New England: Wm. P. Libby, v. p., Plymouth Cordage Co., North Plymouth, Mass. Trunk Line: J. S. Wood, v. p., Pan American Petroleum & Transport Co., New York. Central Freight: Geo. A. Blair, g. t. m., Wilson & Co., Inc., Chicago. Western Trunk Line: L. P. Siddons, t. m., Holly Sugar Corp., Colorado Springs, Colo. Southwestern: F. A. Leffingwell, sec-treas., Southwestern Industrial Traffic League, Dallas, Tex. Southeastern: M. M. Emmert, t. m., Coca-Cola Co., Atlanta, Ga. Northwestern: Martin F. Smith, Sec., Southern Minnesota Mills, Minneapolis, Minn. Pacific Coast: W. G. Stone, mgr., Transport. Dept., Sacramento Chamber of Commerce, Sacramento, Cal.

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130,000 Sq. Ft. Distribution of Pool Cars
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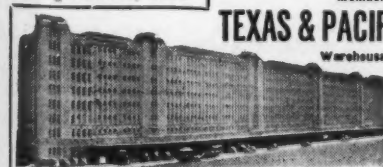
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Fireproof Warehouses—A.D.T. Automatic Fire and Burglary Protection.

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Shuttle System Ends Bottleneck

In effect, the truck-trailer shuttle system serves to extend factory conveyor lines out of the plant and over the roads.

NATIONAL SCREW & MFG. CO., Cleveland, Ohio, one of the oldest and largest firms in its field, is turning out millions of screws, nuts, bolts and rivets every day to meet indus-

try's pressing demands for all kinds of metal fasteners. Shortly after Pearl Harbor production at National skyrocketed to unprecedented levels, and officials found themselves faced

with a serious "bottleneck" in the movement of processed materials from the company's mill to the main plant, a mile away.

Thousands of coils of wire which are drawn and annealed at the mill must be kept flowing into the factory with time-table precision. Increased production placed a strain on the inadequate dock facilities at the mill. Dock space was so cramped that only small trucks could be used, and only one truck could be accommodated, while others stood outside waiting to be loaded. Something had to be done.

Production officials first investigated the possibility of moving the mill equipment into the main factory, but this wasn't practical for several reasons. Machining operations were already crowding the plant to capacity. The main factory had no railroad siding for some of its incoming raw materials. It was found that the idea of bringing in a spur track was entirely out of the question since the cost would have been prohibitive.

The company then called in a Fruehauf transportation engineer who suggested a solution to the problem: one new dock, one medium-sized truck and three trailers, operating on a "shuttle" system.

Like thousands of others in different kinds of business, National discovered that, with proper loading facilities, one truck and driver could handle three trailers, thus could replace several trucks and still do the job better than it could be done by any other method.

Loading dock at National Screw & Mfg. Co., Cleveland



Traffic appliance division, General Electric Co., has been separated into heating device and fan divisions, with M. B. Ross, formerly sales manager, traffic appliance division, as manager; and the clock division, with R. O. Fikes, formerly in traffic appliance sales, as manager. George E. Mullin, Jr., has been named sales manager, electric sink and cabinet division; R. E. Boian, sales manager, heating devices; C. R. Thorsen, sales manager of clocks.

George A. Keates, treasurer and chairman of the Warehouse Industry Advisory Committee, Canadian Warehousemen's Assn., has severed his connection with Terminal Warehouses, Ltd., Toronto, Ontario, and become associated in the ownership and management of Manitoba Cartage and Warehousing Co., Ltd., Winnipeg, Manitoba.

Fred B. Smales, with United States Plywood Corp. for 12 years, has been appointed manager of the corporation's newly formed California sales division. Don L. Braley, sales division, six years, was named manager of the San Francisco distributing unit; Don I. Kesseling, also with the company several years, named manager, distributing unit at Oakland, Cal.; John D. Patriguin, sales representative in San Francisco, is to be resident manager in Fresno.

Officers and committee chairmen installed by Raritan Traffic Club are: A. J. Kroll, president; V. Paulson, vice-president; M. Stolt, secretary; E. J. Peterann, treasurer; R. D. Dameo, C. L. Rosanagh, C. W. Vosskueller, Board of Governors; E. T. Gass, constitution and by-laws; J. M. Hayes, membership; A. Markowitz, traffic; A. McNeill, educational; O. G. Perry, entertainment; J. J. Tortorice, publicity and welfare.

Louis F. Simon, formerly associated with the general sales and bond departments, Schenley Distillers Corp., has been appointed mid-Atlantic regional manager, Joseph S. Finch & Co., an affiliate of Schenley.

Carl F. LaMarche, president, Marion Steam Shovel Co., Marion, O., has resigned. He is also president, American Malleable Castings Co., Marion, O.



People . . .

Edward F. Pritzlaff, Milwaukee, has been elected president, National Wholesale Hardware Assn. He succeeds Fay F. Thompson, Sacramento, Cal.

Maurice R. Goodwin, Spokane, Wash., owner and head, Goodwin Moving and Storage Co., has been elected vice-president, Washington State Warehousemen's Assn.

Leroy A. Wilson, former assistant vice-president, American Telephone and Telegraph Co., commercial division, has been elected a vice-president in charge of business research and Bell System revenue requirement studies.

Charles H. Slaughter has been named national sales manager, Thomas Machine Mfg. Co., Pittsburgh. He was formerly an engineer and designer, American Steel and Wire Co., Carnegie-Illinois Steel Corp., and Jones and Laughlin Steel Corp. (Kline)

Ralph R. Brubaker, western division sales manager, Carnation Co., located in Seattle, Wash., has been advanced to general sales manager; headquarters at Milwaukee. He is succeeded by Hal A. Laing, who has been divisional supervisor. (Haskell)

Ernest L. Hughes, president, Hughes Oil Co., Chicago, and recent director of marketing, Chicago, for Petroleum Administration for War, has been made a special assistant to Harry F. Sinclair, president, Sinclair Oil Corp., New York. (Kline)

Frank Kearney has been elected president of the Traffic Club, Newark, N. J. He is assistant sales manager of Lehigh Warehouse & Transportation Co., Inc., Newark, and sales manager of Lackawanna Warehouse Co., Inc., Jersey City, N. J., a combination of warehouses known as the Lehigh and Lackawanna Warehouse Service. He is active in trade associations in the east, and has headed various committees to further better warehousing. Recently he was elected vice-president of the Jersey City Traffic Club and is a member of its Board of Governors.

B. F. Towne, formerly Chicago district sales manager, Harrower Laboratory, Inc., Glendale, Cal., recently acquired by the Lambert Co., has been named assistant general sales manager, sales and distribution, in the Middle West and on the Eastern seaboard. (Kline)

B. Brewster Jennings, president and executive committee chairman, Socony-Vacuum Oil Co., has been elected a vice-president, Chamber of Commerce of the State of New York, to fill the vacancy left by the late John A. Brown, who was president of Socony-Vacuum.

Metropolitan Traffic Assn. of New York, Inc., has elected Otto Birnbrauer, Minneapolis & St. Louis Ry. Co., president; Al Clodfelter, U. S. Industrial Alcohol Co., first vice president; J. J. Lenahan, Canadian Pacific Ry., second vice president; J. B. Soudy, American Smelting & Refining, secretary; V. P. Golden, Union Bag & Paper Co., treasurer; V. J. Walch, Illinois Central System, financial secretary.

Joseph D. Besant is now traffic manager in charge of new traffic promotion, John I. Hay Co., barge line organization. He was with Furness, Withy & Co. for 18 years.

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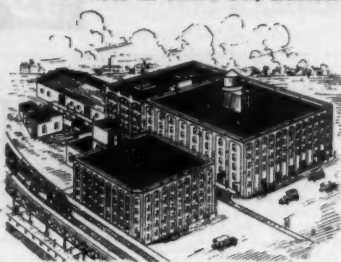
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ROANOKE, VA.

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We make a Specialty of Storage and Pool Car Distribution for Agents, Brokers and General Merchandise Houses.
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E. F. Steen and Roy Long have been elected president and vice president-general manager, respectively, of System Freight Service, Los Angeles. (Herr)

Lt. Col. Charles B. Whitehead, until recently on active duty with the U. S. Army, has been named South American representative, Sterling Engine Co., Buffalo, N. Y. (Kline)

A. R. (Andy) Current has resigned as storage section chief, Shipping and Storage Branch, Office of Distribution, War Food Administration. He plans to return to private industry. B. C. Guthrie, who has been with the Shipping Section and with the FSCC for some years, is now acting chief of the Storage Section. J. E. Salisbury, formerly with Shipping and Storage Branch, WFA's Office of Distribution, has been designated chief, Lend-Lease Operations, in charge of transportation and storage, priorities, inspection, and expediting activities.

H. Richard Stichel has been appointed division director, property operations, ODT's Department of Highway Transport.

Dewey Poulson has been named personnel and safety director, Valley Motor Lines, Fresno, Cal. He formerly was with Mohawk Petroleum Co., Bakersfield, Cal. (Herr)

California State Council, American Assn. of Traffic Management, meeting in Los Angeles, Cal., elected for 1944-45: president, Frank H. Powers, Los Angeles, Cal.; general traffic manager, Sears, Roebuck & Co., Pacific Coast division; first vice president, George D. Cron, traffic manager, General Motors Co., Oakland, Cal.; secretary, Bess E. Anderson, assistant manager, Wells Fargo Carloading Co., Los Angeles, Cal.; treasurer, J. E. McIntyre, general manager, Coast Carloading Co., Los Angeles, Cal.; regional vice presidents: San Diego, Cal., Virgil B. Windle, general manager, San Diego Forwarding Co.; San Francisco, Cal., A. C. Street, traffic manager, Safeway Stores, Inc., Oakland; Sacramento, Cal., W. G. Stone, manager, trans-

portation department, Sacramento Chamber of Commerce; San Joaquin, Cal., J. C. Sommers, manager, transportation department, Stockton Chamber of Commerce. (Herr)

H. B. Higgins, president, Pittsburgh Plate Glass Co., has been elected president also of the Pittsburgh Corning Corp., replacing the late H. S. Wherrett. R. L. Clause, vice chairman, Pittsburgh Plate, was named vice president of Pittsburgh Corning, which is owned equally by Corning Glass Co. and Pittsburgh Plate. (Kline)

Mt. Vernon Car Mfg., Mt. Vernon, Ill., division of H. K. Porter Co., Inc., Pittsburgh, Pa., announced appointment of George Green as vice president in charge of sales.

Officers, directors elected at 21st annual convention, Missouri Warehousemen's Assn., are: Frank H. Cole, Radial Warehouse Co., No. Kansas City, Mo., general president; Morris M. Stern, Mid-West Terminal Warehouse Co., Kansas City, Mo., general secretary-treasurer; Merchandise Division, O. S. Anderson, Adams Transfer & Storage Co., St. Louis, Mo., president; C. J. LaMothe, St. Louis Terminal Warehouse Co., St. Louis, Mo., vice president; R. R. Lester, Merchandise Warehouses, Inc., Kansas City, Mo., secretary-treasurer; W. F. Long, S. N. Long Warehouse Co., St. Louis, Mo.; R. F. Wallace, Crocks Terminal Warehouse, Inc., Kansas City, Mo.; Burke Holbrook, General Warehouse Co., Springfield, Mo., directors: Household Goods Division, W. E. Lee, Geitz Moving & Storage Co., St. Louis, Mo., president; Russell D. Bray, Monarch Transfer & Storage Co., Kansas City, Mo., vice president; H. A. Prosser, Prosser Moving & Storage Co., St. Louis, Mo., secretary-treasurer; Harry A. Dale, W. E. Murray Transfer & Storage Co., Kansas City, Mo.; J. E. Perky, Perky Bros. Moving & Storage Co., Kansas City, Mo.; C. W. Peters, Alasco Moving & Storage Co., St. Louis, Mo., directors.

Ernie Sharp, who has been on special war service in New York City, has returned to

United Fruit Co.'s Chicago office as western freight agent.

William H. Kauffmann has been appointed assistant to chief engineer in charge of diesel engine development for Mack Trucks.

Ralph Bentley, general traffic manager, National Tea Co., has been named chairman, Chicago District, ODT, private carrier advisory committee.

John J. Nash, Illinois commissioner, motor vehicles for the last 10 years and president last year, Association of Motor Vehicle Administrators, has resigned his state post. He is temporarily succeeded by George R. Moore, acting chief clerk.

Bennett Bond, secretary-manager, Associated Motor Carriers, Oklahoma, has resigned to become affiliated with White Truck Sales Co., Tulsa. (M. L. Rhea)

Willis Day, of Willis Day Storage Co., Mayflower agent, Toledo, Ohio, recently marked his 15th year in the storage business.

G. E. Siedle has been named export sales manager, H. J. Heins Co., which he recently rejoined after service with the Canadian Army. (Kline)

Frederick John Knack has been appointed vice president in charge of engineering, Luscombe Airplane Corp., Trenton, N. J.

W. T. McCargo has been named Eastern regional sales manager, The Carborundum Co., Niagara Falls, N. Y., succeeding F. Jerome Tone, Jr., who has been named vice president in charge of sales.

Henry J. Kaiser has been named chairman, new transportation committee of the China-America Council. Working with the committee are representatives of 42 transportation, economic and industrial experts of the Government of China, appointees of Dr. H. H. Kung, Chinese minister of finance. (Gidlow)

Harrison A. Roddick, marketing consultant, and AM E. Werolin, manufacturing consultant, have become general partners, McKinsey & Co., management consultants, New York City, Boston and San Francisco.

Chas. R. Page has been elected to fill a vacancy on the board of directors, American President Lines. He is a past president, Fireman's Fund Insurance Co. and chairman of its board of directors since 1948. He is president of the San Francisco Fire Commission. (Gidlow)

C. S. Decker has been appointed general manager, traffic department, Borden Co. Mr. Decker joined the company in 1918, and succeeds the late Ernest Hadley.

J. E. Shoemaker, associate division director in charge of refrigerated warehousing, has also given up full-time ODT affiliation, but

will remain as consultant on refrigerator storage problems.

William E. F. Conrad has been named assistant to E. A. Meyer, chief of the Fruit and Vegetable Branch in the Office of Distribution.

Col. Leo M. Nicolson, division director in charge of storage, ODT, has returned to private business and has been succeeded by Samuel G. Spear, associate division director.

At the annual stockholders meeting, of Air Lines Terminal, Inc., Herbert J. Lyall, eastern traffic manager, American Airlines, was elected president. D. A. O'Connor, northern division manager, Eastern Air Lines, was elected vice president, and W. S. Allen, manager, Terminal Corp., was re-elected secretary-treasurer.

N. S. von Phul, president, Scobey Fireproof

Storage Co., San Antonio, Tex., was elected president, Southwest Warehouse and Transfermen's Assn. during the 27th annual conference, Fort Worth, Tex. Other officers are: honorary vice president, Seth Davis, Joe Hodges Fireproof Whse., Tulsa, Okla.; 1st vice president, Dan J. Dalberg, Westheimer Trans. & Stge., Houston, Tex.; 2nd vice president, J. A. McCaul, T & P Terminal Whse. Co., Ft. Worth, Tex.; vice president for Ark., S. J. Beauchamp, Jr., Terminal Van & Stge. Co., Little Rock, Ark.; vice president for La., Ivy Paulk, Faulk-Collier Bonded Whse., Monroe, La.; vice president for N. M., Jack Dalton, Dalton Trans. & Stge., Albuquerque, N. M.; vice president for Okla., Curtice Robertson, Public Whse. Co., Oklahoma City, Okla.; vice president for Tex., Wm. C. Boyce, Acme Trans. & Stge., Amarillo, Tex. Directors: Above officers and Chester E. Bradley, chairman of board, Dallas Transfer & Terminal Whse., Dallas, Tex.; L. L. Schwecke, Universal Term. Whse. Co., Houston, Tex.; Roy Wilson, Roy Wilson

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Private siding. Pool car distribution. Consign shipments via any railroad. Open yard storage. Long distance moving.

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Highest financial rating; new fireproof, A.D.T. sprinklered buildings; lowest insurance rate (10.2¢); modern equipment.
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J. R. GOODFELLOW, Pres.

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Cold Storage — Dry Storage — Rentals — Pool Car Distribution — Office Rentals
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Wm. T. Lauba, Jr., Secretary

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Merchandise Storage
Pool Car Distribution
Transit Storage
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Heated—Unheated—Yard
Storage
Waterfront Facilities
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U. S. Customs, State and
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30 Car Track Capacity
Modern Handling
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Complete local and over-the-road truck services with 70 units
of all types of equipment, including low-bed trailers, winches
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COLD STORAGE
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Trans. & Whse. Co., Longview, Tex.; Harry Rogers, Rogers Trans. & Stge. Co., Galveston, Tex.; Ross Dodge, O. K. Trans. & Stge. Co., Oklahoma City, Okla.

Operating department and personnel of the Alaska Steamship Co., Seattle, Wash., having recently been reorganized, many new appointments have resulted in the company that is general agent for a large fleet of passenger and freight vessels for the War Shipping Administration. Charles N. Goodwin has been chosen Port Captain; M. W. Felton, port engineer; George Tomte, assistant port engineer, and W. C. Hubbard, port steward. (Littelljohn)

Lt. Col. Clem D. Johnston, former vice president, U. S. Chamber of Commerce and also of AWA, Merchandising Div., has returned to this country from his assignment of duty in China and will be placed on "inactive status" as a reserve officer at the expiration of his terminal leave.

112—D and W, December, 1944

Joseph A. Quinlan, formerly traffic manager, St. Regis Paper Co., New York City, has been elected vice president and traffic manager. (Kline)

J. F. Foley, former senior transport specialist in the ODT's Pacific Coast regional office, has resigned to join the staff of California Truck Rental Co., Oakland, Cal. (Herr)

A. B. Compton, Jr., Lincoln Storage Co., Dayton, O., resigned as president, Ohio Furniture Warehousemen's Assn.

Brant Airways has organized a new air mail and air cargo division of the traffic department. Guy M. Springer, Jr., assistant to Charles E. Beard, vice president in charge of traffic, has been named head of the new service. (Kline)

R. A. McCorkle, with the sales division, Goodyear Tire and Rubber Co., Akron, O.,

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WAREHOUSE SERVICE OF EVERY DESCRIPTION
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Member of A.W.A.—W.W.A.—N.F.W.A.

for many years, has been named manager, new eastern seaboard division, representing the firm throughout the east in its export affairs. (Kline)

Pennsylvania-Central Airlines has announced appointment of Jack Ruhl, Detroit, and Vern R. Mutton, Bay City, Mich., as members of its traffic department.

Alfred W. Hunt has been named Chicago regional service manager, The White Motor Co.; Len A. Fleener, who was transferred to the position of director, industrial relations to handle wartime personnel problems, has been returned to his post as manager, wholesale division; Thomas H. Parramore, veteran of the automotive field and for past two years a lieutenant colonel, Signal Corps, has been released by the Army to resume his position as Pacific Coast regional service manager for White; Henry G. Goehring, former assistant director, industrial relations, White, has been advanced to director.

OBITUARY...

Daniel Hegeman Burdett, 77, founder, president of freight-forwarding firm bearing his name, New York City. Member of New York Yacht Club.

Dickerson Naylor Hoover, 64, supervising inspector general, Commerce Dept. steamboat inspection service. In government service 40 years; brother of J. Edgar Hoover, FBI Director.

Lt. Col. Leslie B. Cooper, 50, helicopter expert; in plane crash near Pennville, N. J. Former vice-president, Giro Associates, New York; also associated with Curtiss-Wright Flying Service, Pittsairn-Larsen Autogiro Co., Inc., Kellett Autogiro Co. and crop dusting service, Department of Agriculture.

Capt. Herbert W. Susmann, marine surveyor who plotted the course for Rear Admiral Richard E. Byrd's transatlantic flight, 1937; at his home, Kenmore, N. Y.

Howard R. Sliter, 58, examiner of transportation, ODT; at Milwaukee, Wis. Formerly in the security business, served as secretary, Barten Transportation Co. and the Trans-American Freight Lines; traffic manager, Keeshin Motor Transport Co. Member, Milwaukee Traffic Club.

F. M. Perryman, Sr., Red Arrow Motor Freight Lines agent, Austin, Tex., division.

John Thomas Tierney, 61, Pittsburgh, president, Koppers United Co.; chairman of board, executive committee member and trustee, Eastern Gas and Fuel Associates, affiliated with Koppers.

Frederick T. Smith, Braintree, Mass., retired, foreign traffic agent for New York, New Haven & Hartford Railroad. (Welling-ton)

Capt. Chris Greene, 48, Cincinnati, O., vice-

president, treasurer, Greene Line, and well-known steamboat man. (Kline)

H. Parke Thornton, 48, vice-president, controller, White Motor Co., Cleveland, O. Prominent in the accounting field as advisory board member and former vice-president, Controllers Institute of America; member of Advisory Committee on Government Questionnaires, U. S. Bureau of the Budget; Federal Taxation Committee, Cleveland Chamber of Commerce.

William J. Cook, 60, in charge of planning, construction of expanding Port of Embarkation, Seattle, Wash. Prominent in shipping, shipbuilding circles of Puget Sound. During World War I was chief inspector, U. S. Shipping Board; later hull superintendent, Seattle North Pacific Shipbuilding Co., and construction superintendent, Pacific Coast Steamship Co. (Littelljohn)

Carl A. Isberg, 47, warehouse manager, Young Bros. Storage & Transfer Co., Denver, Col., after a long illness. (Alexander)

J. D. Jacob, Onley, Va.; formerly connected with Eastern Shore of Virginia Produce Exchange; organizer, manager, Beaufort (S. C.) Truck Growers Assn. and Sanford (Fla.) Celery Growers Exchange.

William A. Salmen, 71, special representative to vice president and general manager, Los Angeles Union Terminal, Inc., which he had been identified with since 1927. Formerly with Chicago & Northwestern Railroad, Pacific Electric Lines, Revaluation Dept., ICC.

S. J. Beauchamp, Sr., president, manager and operating executive, Terminal Van & Storage Co., Little Rock, Ark., at Little Rock.

B. Frank Johnson, former secretary-manager, Southwest Warehouse and Transfermen's Assn. and recently secretary-manager, Houston Freight Carriers' Assn., at Fort Worth.

L. C. Bostwick, 68, eastern traffic manager, Wabash Railroad, New York office. He was

a member of the New York and Philadelphia Traffic Clubs; Whitehall Club, New York Railroad Club, Echo Lake Country Club, Westfield, N. J.

George R. Browder, 75, traffic manager, Fibre Box Assn., Chicago. He had been traffic manager of the association and its predecessor group for 31 years.

Harry B. Day, 81, New York Produce Exchange member since 1882; former head of H. B. Day & Co.; Montgomery and Day firm and one time manager, Erie Railroad Co.'s grain department.

Arthur M. Dossett, manager of the Exporters and Traders Warehouse Co., Hillsboro, Tex.

George A. Martin, 75, chairman, Sherwin-Williams Co., Cleveland. He joined Sherwin-Williams in 1891, becoming manager of the western division in 1898. In 1905 he was transferred to the company's headquarters in Cleveland and placed in charge of the auxiliaries department. (Kline)

George M. Graham, 67, formerly associated with Studebaker Motor Co., Pierce-Arrow, Chandler, Willys-Overland and Rockne in executive capacities. He was active in development of highways, safety measures, tax matters, etc.; often spoke at New York automotive shows.

Thomas Midgley, Jr., 55, American Chemical Society president and Ethyl Corp. and Kinetic Chemicals, Inc., official. Mr. Midgley discovered anti-knock properties of tetraethyl lead. Held Priestley Medal of American Chemical Society; Willard Gibbs Medal, Society's Chicago Section; William H. Nichols Medal, Society's New York Section.

William Hart Patterson, 62, general service manager, Westinghouse Electric Elevator Co., Jersey City. He pioneered in high speed electric elevator development and elevator automatic control perfection.

MILWAUKEE, WIS.

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